VT 4.0

DIVE COMPUTER

OPERATING MANUAL

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CONTENTS

NOTICES....3

FEATURES AND FUNCTIONS....4
DISPLAY ICONS....5
ABBREVIATIONS/TERMS....5
OVERVIEW....6
ACTIVATION....6
MENU SYSTEM....6
AUDIBLE ALARM....7
PC INTERFACE....7
POWER SUPPLY....8
BATTERY STATUS....8

OPERATING MODES....9
Post Dive Transition Period....9
Power Saver Mode....9

NORM SURFACE MODES....10
NORM SURF MAIN AND ALTS....11
NORM MAIN MENU....11
Time to Fly/Desat....12
NORM Plan Mode....12
NORM/GAUG Log Mode....12
NORM/GAUG Set Menu....13
Select Dive Operating Mode....13
NORM/GAUG History Mode....14
VT 4.0 ID....14
Battery/TMT Status....14
NORM Dive Preview....15

NORM Set Groups....15
Set F (FO2) Menu....15
Set A (Alarms) Menu....16
Set U (Utilities) Menu....16
Set T (Time/Date) Menu....17
Set S (Shortcut) Menu....18
Set D (Dive Main) Menu....18
Set P (Preview) Menu....18

DIVE MODE FEATURES....19
TRANSMITTER SIGNAL RECEPTION GUIDE....20
PROXIMITY OF THE TMTS AND VT 4.0....20
Link Interruption Underwater....21
WET ACTIVATION....21
SMARTGLO BACKLIGHT....21
BAR GRAPHS....21
ALGORITHM....21
CONSERVATIVE FACTOR....21
DEEP STOP....22
SAFETY STOP....22
DIVE TIME REMAINING (DTR)....22
No Deco DTR (NDC)....22
O2 DTR (OTR)....22
AIR TIME REMAINING (ATR)....23

NORM Dive Mode Structure....23

NORM DIVE MODES....24
NO DECO MAIN AND ALTS....25
DEEP STOP (DS)....26
SAFETY STOP (SS)....26

DECOMPRESSION....27
VIOLATION MODES....28
HIGH PO2....29
HIGH O2....30

GAS/TMT SWITCHING AND BUDDY PRESSURE CHECK....31
OVERVIEW....32
NORM GAS/BUD MENU....32
GAUG TMT/BUD MENU....32

GAUG OP MODE....34
GAUG SURFACE MAIN AND ALTS....35
GAUG MENU....35
GAUG Set Groups....36
GAUG DIVE MODE....38
Main and ALTs....38
Delayed Violation....38

FREE DIVE OP MODE....39
FREE SURFACE MAIN AND ALTS....40
FREE MENU....40
FREE Set Groups....41
FREE DIVE MODE....42
Main and ALTs....42
Alarms....42

COMPASS MODE....44
COMPONENTS....45
OVERVIEW....46
COMPASS MENU....46
NORTH MODE....46
REFERENCE MODE....46
REFERENCE MENU....46
CALIBRATION....47
DECLINATION....48
ALARMS....48

REFERENCE....49
PC INTERFACE....50
PC Requirements....50

CARE AND CLEANING....51
INSPECTIONS AND SERVICE....51
BATTERY REPLACEMENT....51

TRANSMITTER BATTERY REPLACEMENT....53
TRANSMITTER INSTALLATION ON A REGULATOR....53

ALTITUDE SENSING AND ADJUSTMENT....54

RESET DURING A DIVE....54

TECHNICAL DATA....55
PZ+ ALGORITHM NDL CHART....56
DSAT ALGORITHM NDL CHART....56
SPECIFICATIONS....57

FCC COMPLIANCE....58

INSPECTION/SERVICE RECORD....59

OCEANIC WORLDWIDE....59

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Welcome

to

OCEANIC

and

THANK YOU

for choosing the

VT 4.0

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TRADEMARK, TRADE NAME, AND SERVICE MARK NOTICE
Oceanic, the Oceanic logo type, VT 4.0, the VT 4.0 logo, Air Time Remaining (ATR), Diver Replaceable Batteries, Graphic Diver Interface, Tissue Loading Bar Graph (TLBG), Pre Dive Planning Sequence (PDPS), Set Point, Control Console, Turn Gas Alarm, and OceanLog are all registered and unregistered trademarks, trade names, and service marks of Oceanic. All rights are reserved.

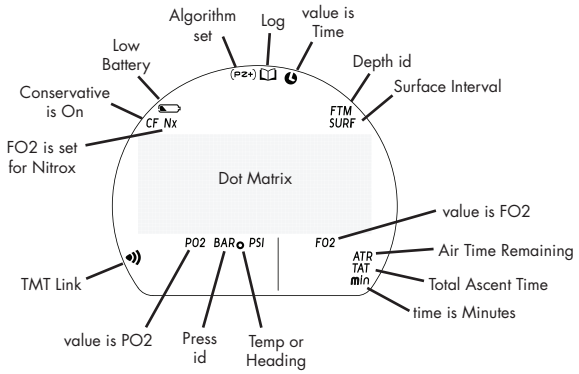
PATENT NOTICE
U.S. Patents have been issued, or applied for, to protect the following design features:
Dive Computer with Free Dive Mode and/or Wireless Data Transmission (U.S. Patent no. 7,797,124), Air Time Remaining (U.S. Patent no. 4,586,136 and 6,543,444) and Data Sensing and Processing Device (U.S. Patent no. 4,882,678). Other patents pending. User Setable Display (U.S. Patent no. 5,845,235) is owned by Suunto Oy (Finland).

LIMITED TWO-YEAR WARRANTY
For details, refer to the Product Warranty Registration Card provided. Register on-line at www.OceanicWorldwide.com

DECOMPRESSION MODEL
The programs within the VT 4.0 simulate the absorption of nitrogen into the body by using a mathematical model. This model is merely a way to apply a limited set of data to a large range of experiences. The VT 4.0 dive computer model is based upon the latest research and experiments in decompression theory. **Still, using the VT 4.0, just as using the U.S. Navy (or other) No Decompression Tables, is no guarantee of avoiding decompression sickness, i.e. "the bends."** Every diver's physiology is different, and can even vary from day to day. No machine can predict how your body will react to a particular dive profile.

FEATURES/FUNCTIONS

DISPLAY ICONS



ABBREVIATIONS/TERMS

ACTIV	= Activation
AL	= Alarm
ALT	= Alternate
ATR	= Air Time Remaining
AUD	= Audible
AVAIL	= Available
BATT	= Battery
BUD	= Buddy (pressure)
CAL	= Calibrate (compass)
CDT (CD)	= Countdown Timer
CONSERV	= Conservative Factor
DD	= Descending Depth (alarm)
DECO	= Decompression
DESAT	= Desaturation Time
DFLT	= Default
DSAT	= Algorithm type
DTR	= Dive Time Remaining
DURA	= Duration (backlight)
E	= East (compass)
EDT	= Elapsed Dive Time
EL	= Elevation (altitude)
FO2	= Fraction of Oxygen (%)
FORM	= Format (date, time)
FREE	= Free Dive Mode
FT	= Feet (depth)
GAUG	= Digital Gauge Dive Mode
GLO	= Glow (backlight)
HIST	= History
LO	= Low (battery)
M	= Meters (depth)
MIN	= Minutes (time)
N	= North (compass)
NDC	= No Deco DTR
NDL	= No Deco Limit
NE	= Northeast (compass)
NO	= Number
NO-D	= No Decompression
NORM	= Normal Dive Mode
NW	= Northwest (compass)
O2	= Oxygen
OTR	= O2 DTR
PO2	= Partial Pressure of O2 (ATA)
PRESS	= Pressure
PZ+	= Algorithm type
REF	= Reference (compass)
S	= South (compass)
SAFE	= Safety (stop)
SE	= Southeast (compass)
SEC	= Seconds (time)
SN	= Serial Number
SURF	= Surface
SW	= Southwest (compass)
SWCH	= Switch (gas)
TAT	= Total Ascent Time (deco)
TLBG	= Tissue Loading Bar Graph
TMR	= Timer
TMT	= Transmitter
VIOL	= Violation
W	= West (compass)

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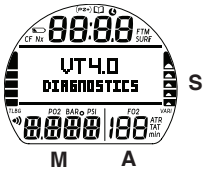
OVERVIEW

INTERACTIVE CONTROL CONSOLE

The Interactive Control Console utilizes 3 control buttons that are referred to as M, A, and S.

- M (left front) - Menu, Mode, Minus (decrease)
- A (right front) - Advance, Add (increase).
- S (right side) - Select, Save.



Diagnostic Check
(for 3 sec, then My Info)

ACTIVATION

To activate the VT 4.0, press/release any button.

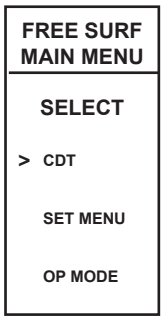
- The unit will enter Diagnostic Mode displaying all segments of the LCD as 8's, followed by dashes (- -), then a countdown from 9 to 0. It checks the display and voltage to ensure that everything is within tolerance.
- It will also check ambient barometric pressure, and calibrate present depth as 0. When at 3001 feet (916 meters), or higher, it will adjust depth for the higher altitude.
- After the Diagnostic check, a MY INFO screen will be displayed for 10 sec showing a default message, or information that you enter using the PC interface system.
- The NORM Surface Main screen will then be displayed, allowing access to all surface functions.
- If no dive is made within 2 hours, the unit will shut Off. *Also see PSM on page 9.*

Contacts located on the stems of the buttons and pins of the PC Data Port will automatically activate the unit and cause it to enter dive mode when the contacts become wet and it senses depth of 5 FT (1.5 M). They will not inadvertently activate Surface Mode such as when in a wet gear bag.

Default Message
(for 10 sec, then SURF Main)

MENU SYSTEM

The Dot Matrix located in the middle of the LCD viewing area is used to display alpha numeric messages and measured values as well as Menu type systems for selection of settings and various auxiliary functions. It also serves as the Digital Compass which can be accessed while viewing Main screens.



Sample Menu

There are multiple Menus such as -

- NORM Main Menu
- GAUG Main Menu
- FREE Main Menu
- Compass Menu
- Compass Reference Menu
- Set FO2 Menu
- Set Alarms Menu
- Set Utilities Menu
- Set Time Menu
- Set Shortcut Menu
- Set Dive Display Menu
- Set Preview Menu
- Gas/Transmitter Switch Menu

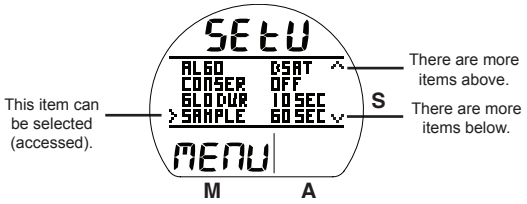
Upon entering a Menu, movement through it starts at the first (top) selection, then continues in a rolling manner down the screen showing selections in groups of up to 4 items.

Menu button operations >>

M (< 2 sec) - to access Menu.
A (< 2 sec) - to step down the screen (forward) through Menu selections.
M (< 2 sec) - to step up the screen (backward) through Menu selections.
S (< 2 sec) - to access the item indicated by Arrow icon (>).
S (2 sec) - to step back to a previous item or from a selected item to the Menu.
S (2 sec) - to step back from a Main Menu to a Surface Main.

M (2 sec) anytime, or no button action for 2 minutes - will revert to Surface Main.

- Right Arrow icon (>) at the left indicates that the item can be selected.
- Down Arrow icon (v) at the right indicates that additional items are available below (after) those shown.
- Up Arrow icon (^) at the right indicates that additional items are available above (before) those shown.



AUDIBLE ALARM

While operating in NORM or GAUG Mode the Audible will emit 1 beep per second for 10 seconds when alarms strike, unless it is set Off. During that time, the Audible can be acknowledged and silenced by pressing the S button (less than 2 seconds).

An LED Warning Light, on the housing, is synchronized with the Audible and flashes as the Audible sounds. It will turn Off when the Alarm is silenced. The Audible and LED will not be active if the Audible is set OFF (a group A setting).

FREE Dive Mode has its own set of Alarms which emit 3 short beeps either 1 or 3 times which cannot be acknowledged or set OFF.

Alarms that strike during operations in Compass Mode are described on page 48.

Situations that will activate the NORM/GAUG 10 second Alarm include -

*** Items apply only in NORM mode.*

- Air Time Remaining (ATR) at 5 minutes, then again at 0 minutes.
- Turn Pressure at the Set Point selected (Transmitter 1 only).
- End Pressure at the Set Point selected (active Transmitter).
- Descent deeper than the Depth Alarm Set Point selected.
- Dive Time Remaining at the Set Point selected**.
- Elapsed Dive Time at the Set Point selected.
- PO2 level at .20 < Set Point and again at the Set Point selected**.
- O2 accumulation at 240 OTU (80%), then again at 300 OTU (100%)**.
- TLBG at the Set Point selected**.
- Ascent Rate exceeds 60 FPM (18 MPM) when deeper than 60 FT (18 M), or 30 FPM (9 MPM) at 60 FT (18 M) and shallower.
- Loss of the active Transmitter Link signal for more than 15 seconds during a dive.
- Entry into Decompression Mode (Deco)**.
- Conditional Violation (above a required Deco Stop Depth < 5 minutes)**.
- Delayed Violation (above a required Deco Stop Depth => 5 minutes)**.
- Delayed Violation (a Deco Stop Depth > 60 FT/18 M is required)**.
- Delayed Violation (Depth > 330 FT/100 M in NORM, > 400 FT/120 M in GAUG).
- A Gas Switch would expose the diver to PO2 => 1.60 ATA**.

A single short beep (which cannot be disabled) sounds when -

- After 5 minutes on the surface after the Violation dive.

3 short beeps (which cannot be disabled) sound when -

- Ascent Rate is 51 to 60 FPM (15.1 to 18 MPM) when deeper than 60 FT (18 M), or 26 to 30 FPM (7.5 to 9 MPM) at 60 FT (18 M) and shallower.
- FREE Dive Elapsed Dive Time Alarm (3 beeps every 30 seconds if set On).
- FREE Dive Depth Alarms 1, 2, 3 (set sequentially deeper) - each 3 beeps 3 times.
- FREE Dive TLBG Alarm (Caution zone, 4 segments) - 3 beeps 3 times.
- Entry into Deco during a FREE Dive (a Violation) - 3 beeps 3 times.
- Free Dive Mode Countdown Timer reaches 0:00 - 3 beeps 3 times.

During the following situations, the audible will not turn off when acknowledged -

- Delayed Violations.
- Deco Stop Depth Violation => 70 FT/21 M stop required.
- FREE mode alarms.

PC INTERFACE

Interface with a PC, to allow uploading settings and downloading data, is accomplished by connecting the VT 4.0 to a PC USB Port using the special USB Interface Cable.

The software program together with the USB Driver required is on the Oceanlog CD, and can be downloaded from the OceanicWorldwide web site. The program's HELP** serves as the user manual which can be printed for personal use.

**Prior to attempting to Download data from your VT 4.0 or Upload Settings to it, review the HELP section of the Oceanlog program. Recommended is to print those sections of HELP that you consider appropriate for your Interface activities.

The Settings Upload portion of the Oceanlog program can be used to set/change the Set A group (Alarms), Set U group (Utilities), Set T (Time), etc. using the same Interface System. FO2 and FREE Mode related items must be set using the control buttons.

Information available for retrieval (download) from the VT 4.0 to the PC Download portion of the program includes dive data such as number, surface interval time, maximum depth, elapsed dive time, no deco status, pressure, start date/time, lowest temperature under water, sampling rate, dive profile, and Set Points.

The Oceanlog program also allows upgrade of select versions of the VT 4.0's firmware (operating system software) after which the VT 4.0 resets all operating data. Since the upgrades require reset of the VT 4.0, they are blocked during 24 hours after dives.

- Refer to page 50 for more details relating to Oceanlog and PC Interface.

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POWER SUPPLY

- VT 4.0 Battery >> (1) 3 vdc, CR2450, Lithium.
- Shelf life >> up to 5 years.
- Use life >> 100 dive hours if (1) 1 hour dive per dive day up to 300 dive hours if (3) 1 hour dives per dive day.
- Transmitter (each) >> (1) 3 vdc, CR2, .75 Ahr, Lithium.
- Use life >> 300 dive hours if (2) 1 hour dives per dive day.
- Replacement >> by user (annual recommended).

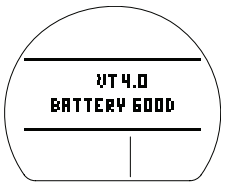

Fig. 1 - VT 4.0 BATTERY STATUS

Battery icon (for VT 4.0 only, does not apply to TMTs):

- Warning >> icon on solid when < 2.75 volts, battery change recommended.
- Alarm >> icon on flashing when < 2.50 volts, change the battery.

BATTERY STATUS

To access, while viewing NORM (or GAUG) SURF Main >>

- M (< 2 sec) to access Main Menu.
- A (< 2 sec), repeat until icon (>) is next to BATT/TMT.
- S (< 2 sec) activates Receiver, then VT 4.0 Status screen appears for 3 sec (Fig. 1), then each active TMT's Status screen for 3 sec (Fig. 2).

Fig. 2 - TMT BATTERY STATUS

VT 4.0 LOW BATTERY WHILE ON THE SURFACE

<u><= 2.75 volts (warning level)</u>

- Backlight is completely disabled.
- Battery icon (shell with inner bar) appears solid (Fig. 3a).
- If a dive is started, the icon is not displayed on the dive mode screens.
- All functions, including Compass Mode, continue to be available.

<u><=2.50 volts (Too Low - alarm level)</u>

- Battery icon (shell only) will flash for 5 seconds then the unit shuts off completely.

Fig. 3 - LOW BATTERY WARNING

VT 4.0 LOW BATTERY DURING A DIVE

<u><= 2.75 volts (warning level)</u>

- Backlight is completely disabled.
- All other functions continue to be available.
- Battery icon is not displayed on the dive mode screens.
- Battery icon (shell with inner bar) appears solid upon entry into Surface Mode.

<u><= 2.50 volts (Too Low - alarm level)</u>

- Backlight is completely disabled.
- All other functions continue to be available during the dive.
- Battery icon is not displayed on the dive mode screens.
- Upon surfacing, the Battery icon (shell only) and graphic CHANGE BATTERY flash for 10 minutes (Fig. 4), then the unit shuts Off completely.

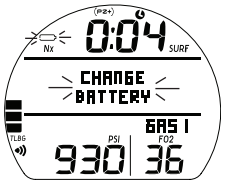

Fig. 4 - LOW BATTERY (after surfacing)

TMT (TRANSMITTER) LOW BATTERY

Indication is provided only while on the surface.

<u><= 2.75 volts (warning level)</u>

- The graphics TMTx BATTERY LOW appear solid on the Battery Status screen (Fig. 5A).
- DC functions continue to be available (surface and dive).

<u><= 2.50 volts (Too Low - alarm level)</u>

- The graphics TMTx LOW BATTERY alternate with the graphics NORM (or GAUG) and DIVE xx on the SURF Main screen (Fig. 5B).
- The graphics TMTx BATTERY and LOW also flash on the Battery Status screen.
- TMT operation continues until Tank Pressure decreases to 50 PSI.

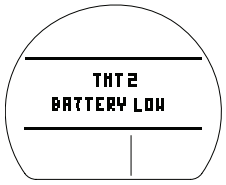

Fig. 5A - TMT LOW BATT (Warning)

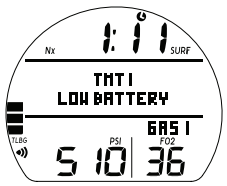

Fig. 5B - TMT LOW BATT (Alarm)

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OPERATING MODES

NORM Mode >> for Air and Nitrox SCUBA activity with up to 4 Gases/4 TMTs.

GAUG Mode >> for SCUBA activity with up to 4 TMTs.

FREE Mode >> for breath hold diving activity with Depth/Time indication.

If no previous dive has been taken within the past 24 hours, NORM is the default mode upon activation with others accessed as described later.

At any time while operating in Surface Modes, operation will enter the Dive Mode selected upon descent to 5 FT (1.5 M) for 5 seconds.

- When Wet Activation is set Off, Dive Mode will only be activated when the unit is first activated and operating in a surface mode.
- When Wet Activation is set On, the selected Dive Mode will activate upon descent regardless of whether is is activated and operating first.

TRANSITION PERIOD, upon surfacing:
Operation shifts from Dive Mode to Surface Mode upon ascent to 2 FT (0.6 M) for 1 second; however, Surface mode 'screens' will not be available until a Transition time elapses.

The reason for this is that making a descent during the first 10 minutes after surfacing from a NORM or GAUG dive, or the first 1 minute after surfacing from a FREE dive, is a continuation of that dive.

A descent made after the 10 minute (or 1 minute) interval has elapsed is then considered a new dive.

During the first 10 minutes after surfacing from a NORM or GAUG dive, or the first 1 minute after surfacing from a FREE dive, the Dive Main screen will be displayed with Surface Interval time replacing Current Depth. Dive ALTs can be accessed to view other information pertaining to that dive.

POWER SAVER MODE (PSM)
Once 10 minutes elapse, after the 10 minute (NORM or GAUG) or 1 minute (FREE) Transition Period on the surface after a dive, the unit will enter a Power Saver Mode (PSM) which turns the display screen off until a button is pressed at which time it will turn back on.

During the 10 minutes that the screen is off, all operations continue as normal in the background with current updated information displayed as soon as the screen comes on again.

Pay special attention to items marked with this Warning symbol.

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NORM

SURFACE MODES

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NORM SURF MAIN, information includes (Fig. 6A/B):
> SI (hr:min) with Time (clock) and SURF icons; if no dive yet, this is time since activation.
> Graphic NORM (operating mode).
> Graphic DIVE and number of dives completed during that operating period, up to 24 (0 if no dive made yet).
> Graphic GAS 1, default on surface before first dive and 10 minutes after surfacing from dives.
> Tank Pressure with PSI (or BAR) and Link (speaker) icons, if the Receiver is successfully Linked with an active TMT (Transmitter), 000 flashing after 15 seconds of lost Link.
> Graphic AIR, or Nitrox value set with FO2 icon.
> TLBG with icon, if any nitrogen after NORM or FREE dives.
> Nx icon, if FO2 is set for Nitrox.
> (PZ+) icon, if selected as the Algorithm (blank if Dsat).
> Battery icon, if voltage is low.

Fig. 6A - NORM SURF MAIN
(no dive yet, set for Air)

- A (< 2 sec) to access ALT 1.
- M (< 2 sec) to access NORM Main Menu.
- M (2 sec) to access NORM Shortcut*.
- S (2 sec) to access Compass.
- S (< 2 sec) to activate Smartglo Backlight.

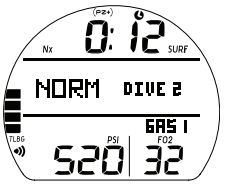


Fig. 6B - NORM SURF MAIN
(after Nitrox dive 2)

**Shortcut takes you a screen selected using the Set S (Shortcut) feature, see page 18.*

NORM SURF ALT 1, information includes (Fig. 7):
> SI* (hr:min) with Time (clock) and SURF icons.
> Max Depth* with FT (or M) and MAX icons.
> Elapsed Dive Time* (hr:min) with graphic EDT.
> Graphic LAST, indicating that data is from the dive previously conducted while in NORM mode.

**Dashes if no previous dive.*

- A (< 2 sec) to access ALT 2.
- 10 sec, revert to Main if A is not pressed.
- S (< 2 sec) to activate Backlight.

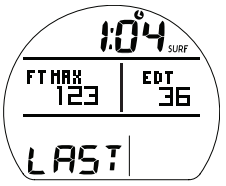


Fig. 7 - NORM SURF ALT 1

NORM SURF ALT 2, information includes (Fig. 8):
> Altitude graphic, if EL2 (to EL7), blank if Sea level.
> Time of Day (hr:min) with graphic A (or P).
> Temperature with ° icon and graphic F (or C).

- A (< 2 sec) to access ALT 3 (if Nx), revert to Main (if Air).
- 5 sec, revert to Main if A is not pressed.
- S (< 2 sec) to activate Backlight.

Fig. 8 - NORM SURF ALT 2

NORM SURF ALT 3, information includes (Fig. 9):
> Graphic O2 with Nx icon.
> (PZ+) icon if selected, blank if DSAT.
> Current O2 saturation with graphic %O2SAT.
> Graphics SETTINGS and GAS 1 with PO2 and FO2 values currently set with icons.

- A (< 2 sec) to revert to Main, or after 5 sec.
- S (< 2 sec) to activate Backlight.

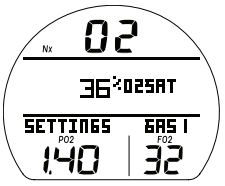
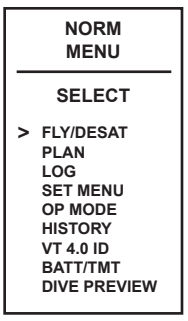


Fig. 9 - NORM SURF ALT 3

NORM MENU
- M (< 2 sec) to access Menu, while viewing Surface Main.
- A (< 2 sec) to step forward through selections (down screen).
- A (hold) to scroll forward through selections (down screen) at a rate of 4 per second.
- M (< 2 sec) to step back through selections (up screen).
- S (< 2 sec) to select (access) the item shown next to the pointer icon (>).
- S (2 sec) to revert from the Main Menu to Surface Main.
- M (2 sec) any time to revert to Surface Main.
- 2 min (no button action) will revert to Surface Main.

Reminder:
- Pointer icon (>) at the left indicates that the item can be selected.
- Down Arrow icon (v) at the right indicates that additional items are available below (after) those shown.
- Up Arrow icon (^) at the right indicates that additional items are available above (before) those shown.



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FLY/DESAT
FLY Time is a count down timer that begins counting down 10 minutes after surfacing from a dive from 23:50 to 0:00 (hr:min).

DESAT Time, also a count down timer, provides calculated time for tissue desaturation at sea level taking into consideration the Algorithm used and the Conservation Factor setting.

DESAT Time also begins counting down 10 minutes after surfacing from a dive, counting down from 23:50 (max) to 0:00 (hr:min).

When the DESAT time reaches 0:00, which will generally occur prior to the FLY count down reaching 0:00, it will remain on the display until the FLY count down reaches 0:00.

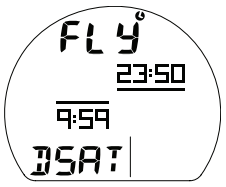


Fig. 10 - FLY/DESAT

> DESAT is not displayed after a Gauge or Violation dive.
> Desaturation requiring Times greater than 24 hours will display 23: - - .
> In the event that Time to Desaturate still remains at the end of 24 hours, the added time will be zeroed.
> When other screens are accessed, the FLY and DESAT countdowns continue in the background.

Fly/Desat, information includes (Fig. 10):
> Graphics FLY and DSAT with countdown times (hr:min) and Time (clock) icon, dashes if no dive yet.

- S (< 2 sec) to revert to Main Menu.

NORM PLAN MODE
No Deco time Limits (NDLs) and O2 time Limits (OTLs) in Plan Mode are based on the Algorithm selected (DSAT or PZ+), the FO2 set for Gas 1, and residual nitrogen (or O2) remaining from previous NORM (or FREE) dives. FO2 set for other Gases are not used for Plan calculations.

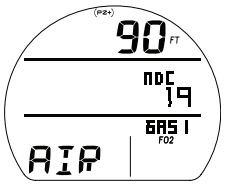


Fig. 11A - PDPS
(Gas 1 set for Air)

PDPS (Pre Dive Planning Sequence)
Plan screens will sequence through Depths from 30 to 190 FT (9 to 57 M), or the Max Depth that will allow theoretical No Deco Dive Time of at least 1 minute based upon the previous dive profiles in a series of repetitive dives and taking into account descent and ascent rates of 60 FPM (18 MPM).

When the Conservative Factor is set On, NDLs are reduced to the values of the next 3,000 foot (915 meter) higher Altitude. Refer to tables in back.

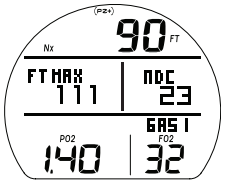


Fig. 11B - PDPS
(Gas 1 set for Nitrox)

PDPS, information includes (Fig. 11A/B):
> Plan Depth value with FT (or M) icon.
> Nx and (PZ+) icons, if they apply.
> Max Depth allowed with FT (or M) and MAX, if Nx.
> Graphic NDC (or OTL) with Dive Time allowed (min).
> Graphic GAS 1 with FO2 icon.
> Graphic AIR; or PO2 alarm value set with icon and FO2 Nitrox value set, if Nx.

- A (hold) to scroll forward through screens at a rate of 4 per second increasing planned Depth from 30 to 190 FT (9 to 57 M) in increments of 10 FT (3 M).
- A (< 2 sec) to step forward through screens.
- M (< 2 sec) to step back through screens.
- S (< 2 sec) to exit and revert to the Main Menu.

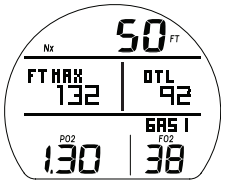


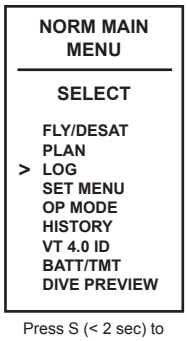
Fig. 11C - PDPS
(times controlled by O2)

NORM/GAUG LOG MODE
Information from the latest 24 NORM and/or GAUG dives is stored for viewing. After exceeding 24 dives, the most recent dive is stored while the oldest is deleted.

> Dives are numbered from 1 to 24 starting each time NORM (or GAUG) Dive Mode is activated. After 24 hours elapse with no dive, the first dive of the next period of operation is #1.
> 10 minutes after a dive, the Log screens for all dives stored can be viewed.

If a dive's elapsed time (EDT) exceeds 599 (min), data at the 599 interval is recorded in the Log upon surfacing of the unit.

Main Menu >> Log Menu >> Dive >> Data 1 >> Data 2 >> Data 3.



Press S (< 2 sec) to access Log Menu.

Log Menu, information includes (Fig. 12):
> Graphics LOG and MENU with mode (book) icon.
> Listing* of dives displaying - - Number (1 to 24), Date, and start Time; or graphics NO DIVES YET if a new unit.

**Up and Down arrows are not displayed at the right due to space limitations.*

- A (hold) to scroll forward (down) through the listing at a rate of 8 entries per second.
- A (< 2 sec) to step forward (down) through the listing.
- M (< 2 sec) to step back (up) through the listing.
- S (< 2 sec) to access that dive's Log Data 1 screen.
- S (2 sec) to revert to Main Menu.

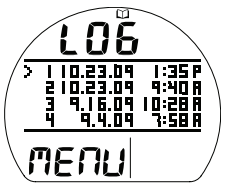


Fig. 12 - LOG MENU

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Log Data 1, information includes (Fig. 13):
> Log (book) icon, and Nx and (PZ+) icons if they apply.
> Pre dive Surface Interval (hr:min) with Time (clock) and SURF icons, - : - - if # 1 (no previous dive that period).
> Max Depth with graphics FT (or M) and MAX.
> Elapsed Dive Time (min) with graphic EDT.
> Graphic NORM, GAUG, or VIOL with dive Number.
> TLBG with max segment flashing, others fixed up to end of dive accumulation. All flash if Violation. Blank if GAUG.
> VARI, max Ascent Rate sustained for 4 sec.

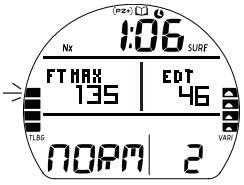


Fig. 13 - LOG DATA 1

- S (< 2 sec) to access that dive's Log Data 2 screen.
- S (2 sec), at any time, to revert to Log Menu.

Log Data 2, information includes (Fig. 14):
> Log (book) icon.
> Graphic SEA (or EL2 - EL7), altitude level of dive.
> Graphics TMT 1, xxx PSI (or BAR) START, and xxx PSI (or BAR) END, indicating Tank 1 pressures.
> Temperature with ° icon and graphic F (or C), minimum recorded during that dive.

Fig. 14 - LOG DATA 2

- S (< 2 sec) to access that dive's Log Data 3 screen if Nx, or revert to Log Menu if Air or GAUG.
- S (2 sec), at any time, to revert to Log Menu.

Log Data 3 (Nx only), information includes (Fig. 15):
> Log (book) and Nx icons with graphic O2.
> (PZ+) icon, if it was selected.
> O2 accumulated at end of dive with graphic %O2SAT.
> Max level of PO2 achieved with icon.
> Graphic GAS 1 (or 2 or 3), one in use when dive ended.
> FO2 value set for Gas in used when dive ended, with icon.

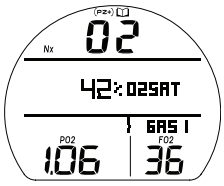


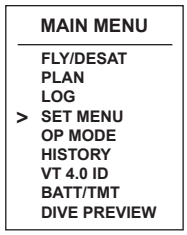
Fig. 15 - LOG DATA 3

- S (< 2 sec) to revert to Log Menu.
- S (2 sec), at any time, to revert to Log Menu.

NORM/GAUG SET MENU

The Set Menu selection provides access to a listing of sub menus that contain items specific to NORM and GAUG modes as well as some utility items that also apply to FREE mode.

- S (< 2 sec) to access the Set Menu while the pointer icon (>) is next to that item on the Main Menu.



Press S (< 2 sec) to access.

Set Menu, information includes (Fig. 16A/B):
> Graphics SEt and MENU with selections -

> F - FO2 (NORM only).
> A - ALARMS.
> U - UTILITIES.
> T - TIME.
> S - SHORTCUT.
> D - DIVE MAIN.
> P - PREVIEW.

These Set Groups are described after the Main Menu items (starting on page 16).

Fig. 16A - SET MENU

- A (< 2 sec) to step forward (down) through Menu selections.
- M (< 2 sec) to step back (up) through Menu selections.
- S (< 2 sec) to access the item next to the pointer (>).
- S (2 sec) to revert to Main Menu.

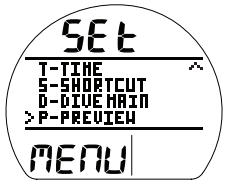


Fig. 16B - SET MENU

SELECT OP (OPERATING) MODE

This feature allows another Operating Mode to be selected.

Select OP Mode, information includes (Fig. 17):
> Graphics SEL and DIVE MODE.
> Graphic NORM, flashing.
> Graphics GAUG and FREE.

Fig. 17 - SELECT OP MODE

- A (< 2 sec) to step forward (down) through selections.
- M (< 2 sec) to step back (up) through selections.
- S (< 2 sec) to select that Mode and revert to it's SURF Main screen.
- S (2 sec) to revert to Main Menu.

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HISTORY MODE (NORM/GAUG)
History is a summary of data recorded during all NORM and GAUG dives conducted.

Fig. 18 - HISTORY 1

History 1, information includes (Fig. 18):
> Graphic TOTAL, or NO DIVES YET (if new unit).
> Total dives recorded (up to 9999) with graphic DIVES.
> Total dive hours recorded (up to 9999) with graphic HOURS.
> Graphic HIST.

- S (< 2 sec) to access History 2.
- S (2 sec) to revert to Main Menu.

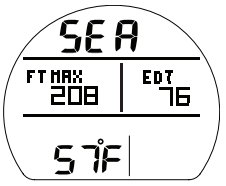


Fig. 19 - HISTORY 2

History 2, information includes (Fig. 19):
> Graphic SEA (or EL2 to EL7), highest Altitude at which a dive was conducted.
> Max Depth recorded with FT (or M) and MAX icons.
> Longest dive time (minutes) recorded during a single dive (up to 599 min) with graphic EDT.
> Lowest Temperature recorded during a dive with icon and graphic F (or C).

- S (< 2 sec) to revert to Main Menu.
- S (2 sec) to revert to History 1.

VT 4.0 ID
This information should be recorded and kept, it will be required in the event that your unit requires factory service.

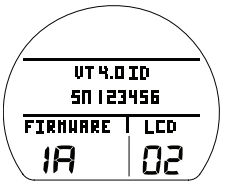


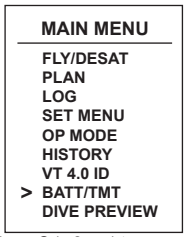
Fig. 20 - VT 4.0 ID

ID (Identification), information includes (Fig. 20):
> Graphic VT 4.0 ID.
> Graphic SN with the factory programmed serial number.
> Graphic FIRMWARE with 1A (or higher)*, indicating the Firmware revision level currently installed in the unit.
> Graphic LCD with 01 (or higher), indicating the Display's revision number.

**This number will change if Firmware is updated by factory service or by future download of revised firmware from the Oceanic web site.*

- S (< 2 sec) to revert to Main Menu.

BATTERY/TMT STATUS
Access to this selection activates the VT 4.0's Receiver, then after 2 seconds, starts an automatic scroll displaying a sequence of status screens. *Also refer to page 9.*



Press S (< 2 sec) to access.

> VT 4.0 Battery Status for 3 sec, then -
> TMT 1 Status for 3 sec, then -
> TMT 2 (or BUD 1) Status for 3 sec, then -
> TMT 3 (or BUD 2) Status for 3 sec, then -
> TMT 4 (or BUD 3) Status for 3 sec, then -
> revert to Main Menu.

VT 4.0 Battery Status, information includes (Fig. 21A):
> Graphic VT 4.0
> Graphics BATTERY and GOOD (if => 2.75 volts) or LOW (< 2.75 volts).
> Battery icon, if Low.

TMT Status (Use set for SELF), information includes (Fig. 21B):
> Graphics TMT 1 (or 2, 3, 4).
> Graphics BATTERY GOOD (if linked and => 2.75 v), or BATTERY LOW (if < 2.75 v).
> Tank Pressure with PSI (or BAR) and Link (speaker) icons.

TMT Status (Use set for BUD), information includes (Fig. 21C):
> Graphic BUDDY 1 (or 2, 3).
> Tank Pressure with PSI (or BAR) and Link icons.

This screen appears when the TMT's Use is set for checking Buddy Pressure, in which case TMT Battery status is not checked.

TMT Status (not reporting), information includes (Fig. 21D):
> Graphic TMT 1 (or 2, 3, 4), or BUDDY 1 (or 2, 3).
> Graphics NOT AVAILABLE.

This screen appears when the VT 4.0's receiver is not receiving a signal from a TMT, or the TMT is set Off.

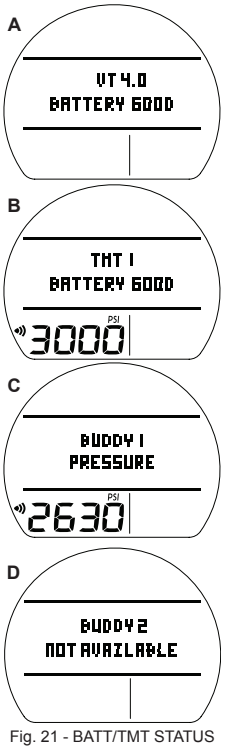


Fig. 21 - BATT/TMT STATUS
(sample screens)

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NORM DIVE PREVIEW
This feature provides quick access to a screen that displays up to 4 settings that can be pre selected* using the Set P Menu.

Preview, information includes (Fig. 22):
> Graphics Nor and PREV.
> Selections* with Set Points entered using that menu.

**If no selections have been made yet, the graphics USE SET P TO SELECT ENTRIES will be displayed.*

- S (< 2 sec) to revert to Main Menu.

Fig. 22 - PREVIEW
(selected settings)

SET GROUPS
Information that follows describes the selections contained in the NORM Set Groups (F, A, U, T, S, D, P) that are accessed from the Set Menu.

Main Menu >> Set Menu >> Set Group Menu >> Set Selection.

SET F (FO2) Menu, information includes (Fig. 23A):
> Graphics* SEt F and MENU.

**During the time that numeric FO2 values are flashing, the Max Depth allowed for the PO2 alarm set with the FT (or M) icon is displayed in place of the graphic SEt F and the PO2 alarm value set with the PO2 icon is displayed in place of the graphic MENU (Fig. 23B).*

Selections with their last Set Points saved include:

> FO2-1 with Set Point (AIR, or 21 to 100%), 1% increments.
> FO2-2 with Set Point (AIR, or 21 to 100%), 1% increments.
> FO2-3 with Set Point (AIR, or 21 to 100%), 1% increments.
> FO2-4 with Set Point (AIR, or 21 to 100%), 1% increments.
> DEFAULT with Set Point (ON or OFF).

- A (< 2 sec) to step forward (down) through Menu.
- M (< 2 sec) to step back (up) through Menu.
- S (< 2 sec) when the pointer icon (>) is next a selection will flash that item's Set Point (Fig. 23B).
- A (< 2 sec) to step upward through Set Points (increase).
- A (hold) to scroll upward through Set Points at a rate of 8 per second.
- M (< 2 sec) to step back through Set Points (decrease).
- S (< 2 sec) to save the setting and revert to the Set F Menu.

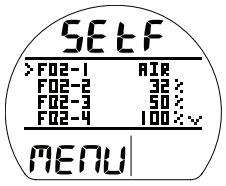

Fig. 23A - SET F MENU
(stepping through)

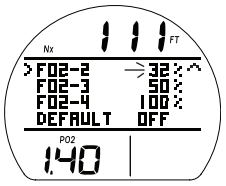

Fig. 23B - SET FO2-2
(changing the setting)

FO2 50% Default:
When set ON and FO2 Gas 1 is set for Nitrox (21 to 100%), 10 minutes on the surface after that dive the FO2 Gas 1 will be displayed as 50% and further dives will be calculated based on 50% O2 for oxygen calculations and 21% O2 for Nitrogen calculations (79% Nitrogen), unless the FO2 Gas 1 is changed before the dive.

FO2 Gas 1 will continue to reset to the 50% Default after subsequent repetitive dives until 24 hours elapse after the last dive, or the Default selection is set OFF.

When set OFF, FO2 Gas 1 will remain set at the last Set Point entered during that period of activation.

FO2 set for AIR:
The default FO2 for Gas 1 each new activation period is AIR.

When FO2 for Gas 1 is set for AIR -
> calculations are the same as when it is set for 21% O2.
> it remains set for AIR until it is set for a Nitrox (21 to 100% O2).
> O2SAT and PO2 values and/or warnings will not be displayed at any time, on the surface or during dives.
> Max Depths allowed by the PO2 alarm set will not be displayed.

Internally, the unit will keep track of the oxygen accumulation so that if FO2 for Gas 1 is subsequently set for Nitrox, the oxygen accumulated during previous AIR dives will be accounted for in the next Nitrox dive (during that dive period and series of repetitive dives).

FO2 set for Nitrox:
When FO2 for any Gas is set for Nitrox (21 to 100%), the dive is calculated to be for Nitrox. The Nx icon is to be displayed on all applicable screens.

Once FO2 for Gas 1 is set for Nitrox (21 to 100%), the AIR option for all gases is disabled until 24 hours elapse after the last dive.

The AIR option will not be displayed in Set FO2 until a full 24 hour Surface Interval has elapsed.

If the FO2 Default is set OFF, FO2 for all gases will remain at their respective Set Points until changed.

If the FO2 Default is set ON, FO2 for all gases default to 50%.

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SET A (Alarms) Menu, information includes (Fig. 24A/B):
> Graphics SEt A and MENU.

Selections with their last Set Points saved include:

> AUD with Set Point (ON or OFF), *audible*.
> DEPTH with Set Point (OFF, or 30 to 330 FT, or 10 to 100 M), increments of 10 FT (3 M).
> EDT with Set Point (OFF, or 10 to 180 MIN), *elapsed dive time*, increments of 5 MIN.
> TLBG* with Set Point (1 to 4 BAR), increments of 1 BAR.
> DTR* with Set Point (OFF, or 1 to 20 MIN), increments of 1 MIN.
> TURN with Set Point (OFF, or 1000 to 3000 PSI, or 70 to 205 BAR), increments of 250 PSI (5 BAR).
> END with Set Point (300 to 1500 PSI or 20 to 105 BAR), increments of 100 PSI (5 BAR).
> PO2* with Set Point (1.20 to 1.60), increments of 0.10.

**These items apply to NORM only.*

- A (< 2 sec) to toggle or increase Set Point.
- A (hold) to increase Set Point at a rate of 8 per second.
- M (< 2 sec) to decrease Set Point.
- S (< 2 sec) to save the setting and revert to the Set A Menu.

Fig. 24A - SET A MENU
(stepping through)

Fig. 24B - SET PO2
(changing the setting)

SET U (Utilities) Menu, information includes (Fig. 25A - C):
> Graphics SEt U and MENU.

Selections with their last Set Points saved include:

> WET ACT with Set Point (ON or OFF) >> *wet activation*.
> UNITS with Set Point (IMP or MET) >> *imperial or metric*.
> DEEP* with Set Point (ON or OFF) >> *no deco deep stop*.
> SAFE* with Set Point** (OFF, TMR, ON) >> *no deco safety stop*.
> ALGO* with Set Point (DSAT or PZ+) >> *algorithm, basis for Ni-O2 calculations*.
> CONSER* with Set Point (OFF or ON) >> no deco *conservative factor, reduces NDLs based on altitude*.
> GLO DUR with Set Point (5, 10, or 15 SEC) >> *time backlight remains on*.
> SAMPLE with Set Point (2, 15, 30, or 60 SEC) >> *rate data is recorded for PC download*.
> TO SET TMT MENU** >> *to access Set TMT menu*.

**These items apply to NORM only.*
***Description expanded, next pages.*

Additional information relating to the effects of the items included are described in associated sections throughout this manual.

- A (< 2 sec) to step forward (down) through selections.
- M (< 2 sec) to step back (up) through selections.
- S (< 2 sec) when the pointer icon is next to a selection will flash that item's Set Point.

  - A (< 2 sec) to toggle or increase Set Point.
  - M (< 2 sec) to decrease Set Point.
  - S (< 2 sec) to save the setting and revert to Set U Menu.

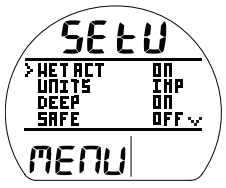

Fig. 25A - SET U MENU
(stepping through)

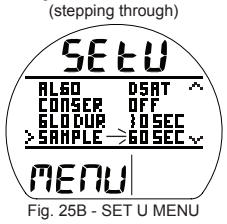

Fig. 25B - SET U MENU
(changing a setting)

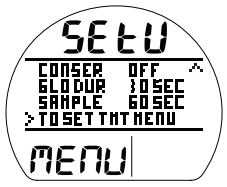

Fig. 25C - SET U MENU
(stepping through)

Set Safety Stop, information includes (Fig. 26):
The Set U menu will display OFF, ON, or TMR solid.

- S (< 2 sec) will flash (Fig. 26A) the graphic allowing step through of the others with the addition of the SET selection (Fig. 26B). *OFF >> TMR >> SET >> ON.*
- S (< 2 sec) while SET is flashing will display the Stop Depth and Time with the Depth setting flashing (Fig. 26C).

  - A (< 2 sec) to step forward through Depth settings (10, 15, 20 FT or 3, 4, 5, 6 M).
  - M (< 2 sec) to step back through Depth settings.
  - S (< 2 sec) to save Depth setting and flash Time digits.
  - A or M (< 2 sec) to toggle Times between 3 and 5 min.
  - S (< 2 sec) to save Depth/Time setting and revert to the Set U Menu with SET flashing.
  - A (< 2 sec), then S (< 2 sec) to flash, then save ON.

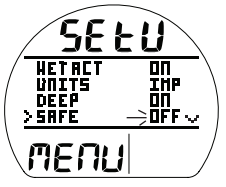

Fig. 26A - SET SAFETY
STOP

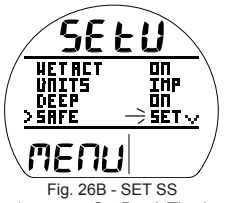

Fig. 26B - SET SS
(to access Set Depth/Time)

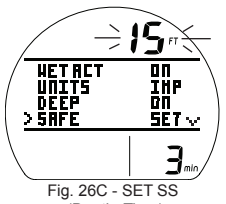

Fig. 26C - SET SS
(Depth, Time)

Set TMT Menu, information includes (Fig. 27):
> Graphics SEt and MENU.

Selections with their last Set Points saved include:

> TMT 1 with Set Point (OFF, ON, or SET).
> TMT 2 with Set Points (OFF, ON, or SET) and (SELF or BUD).
> TMT 3 with Set Points (OFF, ON, or SET) and (SELF or BUD).
> TMT 4 with Set Points (OFF, ON, or SET) and (SELF or BUD).

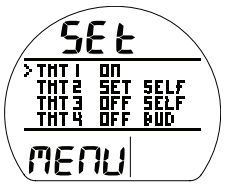

Fig. 27 - SET TMT MENU
(stepping through)

- A (< 2 sec) to step forward (down) through selections.
- M (< 2 sec) to step back (up) through selections.
- S (< 2 sec) when the pointer icon (>) is next a selection will flash that item's ON/OFF Set Point.
- A (< 2 sec) to step forward through that TMT's Set Points (OFF, ON, SET).
- M (< 2 sec) to step back through that TMT's Set Points.
- S (< 2 sec) to save the setting.

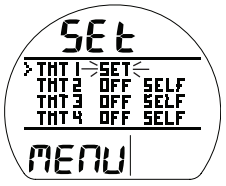

Fig. 28 - SET TMT 1
(changing the setting)

> If TMT 1 OFF is selected (saved), the VT 4.0's Receiver will be disabled, all other TMT Set selections will display the graphics OFF with SELF and be bypassed, and operation reverts to the Set U Menu.
> If TMT 1 ON is selected, ON becomes solid and the TMT 2 ON/OFF Set Point flashes, allowing it to be set.
> If TMT 1 SET is selected (Fig. 28, page 41), the Set TMT 1 SN screen is to be displayed. *Refer to Set TMT 1 SN that follows.*
> If TMT 2 OFF is selected (saved), TMT 2, 3, 4 Set selections are to be bypassed, and operation reverts to the Set U Menu.
> If TMT 2 ON is selected, ON becomes solid and the TMT 3 ON/OFF Set Point flashes, allowing it to be set.
> If TMT 2 SET is selected, SET becomes solid and the SELF/BUD (TMT Use) Set Point flashes (Fig. 29), allowing them to be toggled (A < 2 sec) then saved (S < 2 sec), then its SN set (similar to Set TMT 1 SN).

Setting TMT 3 and TMT 4 are similar to setting TMT 2.

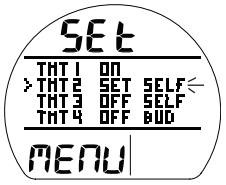

Fig. 29 - SET TMT 2 USE
(changing the setting)

Set TMT SN, information include (Fig. 30):
> Graphics SELF (or bud1, 2, 3) and TMT 1 (2, 3, 4) SN.
> Graphic LINK CODE with the serial number (6 digits), the 1st (left) digit flashing.

- A (< 2 sec) to step upward through the 1st digit's values.
- M (< 2 sec) to step back through the 1st digit's values.
- S (< 2 sec) to save the 1st digit's value and flash the 2nd digit.

- *Repeat A, M, S button action until all digits are set with operation then reverting to the Set TMT Menu with SET solid.*

Fig. 30 - SET TMT 1 SN
(changing the setting)

SET T (Time/Date) Menu, information includes (Fig. 31):
> Graphics SEt t and MENU with Time (clock) icon.

Selections with their last Set Points saved include:

> DATE FORM with Set Point (M.D or D.M) >> *date format, M.D = Month.Day, D.M = Day.Month*
> HOUR FORM with Set Point (12 or 24) >> *hour format, 12 = 12: A to 11: P, 24 = 0: to 23:*
> TIME with Set Point (hr:min) >> *12:01 A to 11:59 P, if 12 Hour Format (or 0:01 to 23:59, if 24 Hour Format).*
> DATE with Set Point (M.D.Y or D.M.Y) >> *Month.Day.Year or Day.Month.Year, arranged by Date Format set:*

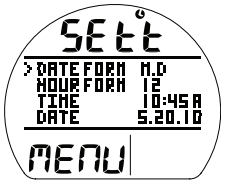

Fig. 31 - SET T MENU
(stepping through)

- A (< 2 sec) to step forward (down) through selections.
- M (< 2 sec) to step back (up) through selections.
- S (< 2 sec) when the pointer icon (>) is next a selection will flash that item's Set Point (Fig. 32).
- A (< 2 sec) to increase Set Points one at a time.
- A (hold) to increase Set Points at a rate of 8 per second.
- M (< 2 sec) to decrease Set Points one at a time.
- S (< 2 sec) to save the setting which becomes solid, then the next value flashes.

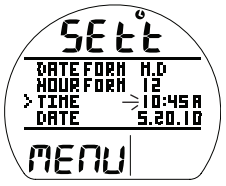

Fig. 32 - SET TIME
(changing the Hour setting)

> The left digits of the Time and Date selections will flash first allowing them to be changed after which the next digits (to the right) flash allowing them to be changed.
> TIME (hr:min) >> Hour digits flash, then Minutes.
> DATE (m.d.y or d.m.y) >> Year digits flash, then Month, then Day, regardless of their position.

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SET S (Shortcut) Menu, information includes (Fig. 33):
> Graphics SEt S and MENU.

One item can be selected from the following menu list. That item (referred to as a Shortcut) can then be accessed directly by pressing M (2 sec) while viewing the Surface Main.

Selections include:
> SET FO2.
> LOG MENU.
> MY INFO (default Shortcut until another item is selected).
> SET HEADING.
> SET TIME.

- A (< 2 sec) to step forward (down) through selections.
- M (< 2 sec) to step back (up) through selections.
- S (< 2 sec) when the pointer icon (>) is next a selection will save it as the Shortcut and revert to the Set Menu.

Fig. 33 - SET S MENU
(stepping through)

SET D (Dive Main) Menu, information includes (Fig. 34):
> Graphics SEt D and MENU.

The default screen for No Deco dives (except while at Stops) displays Current Depth, NDC time, Pressure, and ATR (air time remaining). Items such as Max Depth and EDT (elapsed dive time) are displayed on Alternate screens. Set D allows certain items to be added to the Main (moving them from the Alternates).

One item can be selected from the following menu list.

> USE DEFAULT >> *no change to the display.*
> ADD EDT >> *reduces the size of NDC digits.*
> ADD MAX D >> *also reduces the size of NDC digits.*
> ADD EDT + MAX D >> *NDC, EDT, & Max D digits smaller.*
> ADD O2 DATA >> *reduces the size of NDC digits & PO2 replaces Pressure (which moves to an Alternate).*

- A (< 2 sec) to step forward (down) through selections.
- M (< 2 sec) to step back (up) through selections.
- S (< 2 sec) when the pointer icon (>) is next a selection will save it as the Dive Main* and revert to the Set Menu.

**Ensure that the selection to be saved reflects information you want to see on the Dive Main, it cannot be changed during the dive (only while on the surface using this menu).*

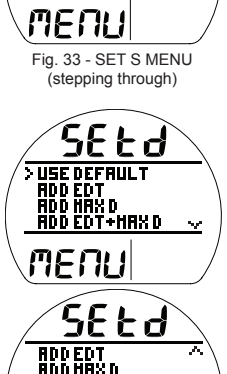


Fig. 34 - SET D MENU
(stepping through)

SET P (Preview) Menu, information includes (Fig. 35):
> Graphics SEt P and MENU.

Using this menu, you can chose up to 4 items (Set Points that have been entered) for display on a Preview screen that can be accessed from the Surface Main Menu (see page 15).

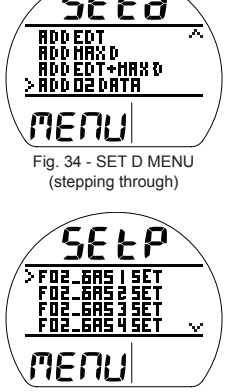
Up to 4 items can be selected from the following menu list.

> FO2_GAS 1 SET.
> FO2_GAS 2 SET.
> FO2_GAS 3 SET.
> FO2_GAS 4 SET.
> PO2 AL SET.
> DEPTH AL SET.
> EDT AL SET.
> TURN AL SET.
> END AL SET.
> DEEP STOP SET.
> SAFETY STOP SET.
> GLO DUR SET.
> MAX OP DEPTH.
> TMT 1 SET.
> TMT 2 SET.
> TMT 3 SET.
> TMT 4 SET.

- A (< 2 sec) to step forward (down) through selections.
- M (< 2 sec) to step back (up) through selections.
- S (< 2 sec) when the pointer icon (>) is next a selection will toggle* it between solid and flashing.

**Once 4 items are flashing, another item cannot be toggled to flash until one of the flashing items is toggled to solid.*

When satisfied that those items flashing (up to 4) are what you want for the Preview screen, press S (2 sec) to display all items flashing (Fig. 36), then press S (< 2 sec) to revert to the Preview screen with all items solid.



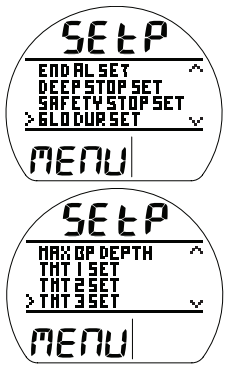


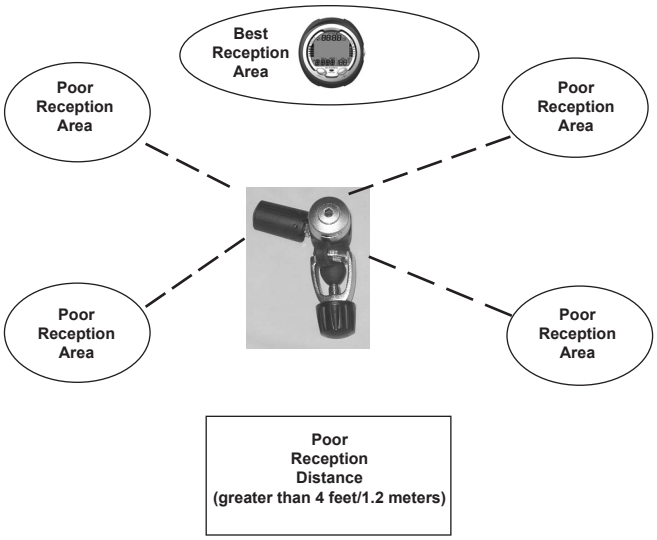
Fig. 35 - SET P MENU
(stepping through)

Fig. 36 - SET P MENU
(preview of selections)

DIVE MODE

FEATURES

TRANSMITTER SIGNAL RECEPTION GUIDE



PROXIMITY OF THE TMTS (Transmitters) AND VT 4.0

The TMTs emit low frequency signals that radiate out in semicircular patterns parallel to the length dimension of the TMT. A coiled antenna inside the VT 4.0 receives the signals when it is positioned within a zone parallel to or at a 45 degree angle to the TMT as illustrated.

The VT 4.0 cannot effectively receive a signal when it is held out to the sides of the TMT or held at distances greater than 4 feet (1.2 meters) in front of the TMT. Best reception is achieved when the VT 4.0 is within less than 4 feet (1.2 meter) of the TMT.

When installed into the high pressure ports of the Regulator First Stages, the TMTs must be positioned so that they face horizontally outward from the Tank Valves.

Link Interruption Underwater

During a dive, you may at times move the VT 4.0 out of the signal pattern of the TMT, resulting in a temporary loss of the Link signal. The Link will be restored within 4 seconds after the VT 4.0 is moved back into its correct position.

An interruption may also occur while the VT 4.0 is within 3 feet (1 meter) of a running DPV, or shortly after a Strobe flashes. The Link will be restored within 4 seconds after the VT 4.0 is moved out of that area.

If the Link is not restored within 15 seconds, the Audible will sound, and the graphics LOST TMT, Pressure value, and Link icon will flash (Fig. 37) until it is restored.

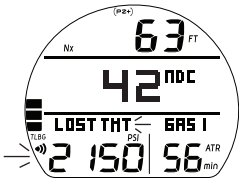


Fig. 37 - LOSS OF LINK

WET ACTIVATION
The VT 4.0 is configured with contacts that will automatically activate Dive Mode when the space between the contacts is bridged by a conductive material (immersed in water) and it senses a Depth of 5 FT (1.5 M).

The contacts are the metal pins of the PC Interface Data Port and the stems of the buttons.

When Wet Activation is set OFF, the VT 4.0 will not enter Dive Mode unless it is first activated by push button and operating in a surface mode or it is a repetitive dive.

SMARTGLO® BACKLIGHT
The VT 4.0 is configured with a sensor that measures the intensity of ambient light. This (Smartglo) saves battery power by allowing the Backlight to only come on when light level is low.

To activate the SmartGlo Backlight >> press/release the S button (< 2 sec).
- If ambient light level is low, the Backlight will activate and illuminate the display for the Duration time set (5, 10, or 15 seconds).
- Pressing any button while the Backlight is on will reset the timer, keeping it on for the duration time set.

Extensive use of the Backlight reduces estimated Battery life. Also, the Backlight does not operate during a Low Battery Condition or when the VT 4.0 is connected to a PC.

BAR GRAPHS
The VT 4.0 features 2 bar graphs, one on each side of the LCD.

> The one on the left represents nitrogen loading. It is referred to as the TLBG (Tissue Loading Bar Graph).
> The one on the right represents ascent rate. It is referred to as the VARI (Variable Ascent Rate Indicator).

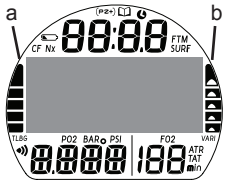


Fig. 38 - BAR GRAPHS

TLBG
The TLBG (Fig. 38a) represents your relative No Deco or Deco status. The lower 4 segments represent No Deco status and the fifth at the top indicates a Deco condition. As your Depth and Elapsed Dive Time increase segments add, and as you ascend segments recede indicating that additional no deco time is available.

The VT 4.0 monitors 12 different nitrogen compartments simultaneously and the TLBG displays the one that is in control of your dive at any given time.

VARI
The VARI (Fig. 38b) provides a visual representation of ascent speed (i.e., an ascent speedometer).

The segments represent two sets of speeds which change at a reference depth of 60 FT (18 M). Refer to the chart.
When ascent is too fast, all segments of the VARI and the graphics TOO FAST will be displayed flashing (Fig. 39) until ascent is slowed.

60 FT (18 M) & Shallower

VARI Segments	Ascent Rate FPM	MPM
0	0 - 10	0 - 3
1	11 - 15	3.1 - 4.5
2	16 - 20	4.6 - 6
3	21 - 25	6.1 - 7.5
4	26 - 30	7.6 - 9
5	30 +	9 +

Deeper than 60 FT (18 M)

VARI Segments	Ascent Rate FPM	MPM
0	0 - 20	0 - 6
1	21 - 30	6.1 - 9
2	31 - 40	9.1 - 12
3	41 - 50	12.1 - 15
4	51 - 60	15.1 - 18
5	60 +	18 +

⚠ **WARNING: At depths greater than 60 FT (18 M), ascent rates should not exceed 60 FPM (18 MPM). At depths of 60 FT (18 M) and shallower, ascent rates should not exceed 30 FPM (9 MPM).**

ALGORITHM
The VT 4.0 is configured with 2 algorithms which allows you to choose which set of NDLs (No Deco Limits) will be used for Ni/O2 calculations and displays relating to Plan and DTR (Dive Time Remaining). The selection will lock in for 24 hours after the last dive.

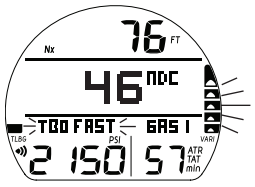


Fig. 39 - ASCENT TOO FAST

You can select DSAT or PZ+.

DSAT has been the standard used by Oceanic in all of its dive computers until this time. It features NDLs that are based on exposures and test data which also formed validation for the PADI RDP. It imposes restrictions for repetitive Deco dives, considered more risky.

PZ+ (Pelagic Z+) performance is based on Buhlmann ZHL-16c. It features NDLs that are considerably more conservative especially at shallower depths.

To create even greater margins of safety with respect to decompression, a Conservative Factor as well as No Deco Deep and Safety Stops can be included for No Deco dives.

CONSERVATIVE FACTOR (CF)
When the CF is set On, the NDLs which are based on the algorithm selected and used for Ni/O2 calculations and displays relating to Plan and DTR, will be reduced to the values available at the altitude level that is 3,000 feet (915 meters) higher. Refer to the NDL charts in the back of this manual.

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DEEP STOP (DS)
When the DS selection is set On, it will trigger during NORM No Deco dives when you descend to 80 FT (24 M) and calculate (and continually update) a Stop Depth equal to 1/2 the Max Depth.

While 10 FT (3 M) deeper than the calculated DS, you will be able to access a DS Preview screen that will display the current Deep Stop Depth (calculated) and Time (fixed at 2 min) for 5 seconds then return to the Main.

Upon initial ascent to within 10 FT (3 M) below the calculated Stop Depth, a DS screen displaying a Stop Depth at 1/2 the Max Depth will appear with a Countdown Timer beginning at 2:00 (min:sec) and counting down to 0:00.

> If you descend 10 FT (3 M) below, or ascend 10 FT (3 M) above, the calculated Stop Depth for 10 seconds during the countdown, the No Deco Main will replace the DS Main display and the DS feature will be disabled for the remainder of that dive. There is no Penalty if the DS is ignored.
> In the event that you enter Deco, exceed 190 FT (57 M), or a High O2 condition (=> 80%) occurs, the DS will be disabled for the remainder of that dive.
> The DS is disabled during a High PO2 Alarm condition (=> Set Point).

SAFETY STOP (SS)

If set On:
Upon ascent to within 5 FT (1.5 M) deeper than the SS Depth set for 1 second on a No Deco dive in which Depth exceeded 30 FT (9 M) for 1 second, a beep will sound and a SS at the Depth set will appear on the Main display with a countdown beginning at the SS Time set and counting down to 0:00 (min:sec).

- If the SS was set for Off or Timer, this display will not appear.
- In the event that you descend 10 FT (3 M) deeper than the Stop Depth for 10 seconds during the countdown, or the countdown reaches 0:00, the No Deco Main screen will replace the SS Main screen which will reappear upon ascent to within 5 FT (1.5 M) deeper than the Safety Stop Depth set for 1 second.
- In the event that you enter Deco during the dive, complete the Deco obligation, then descend below 30 FT (9 M); the SS Main will appear again upon ascent to within 5 FT (1.5 M) deeper than the SS Depth set for 1 second.
- If you surface prior to completing the SS, it will be disabed for the remainder of that dive.
- There is no Penalty if you surface prior to completing the SS or ignore it.

If set for Timer On:
Upon ascending to 20 FT (6 M) for 1 second on a No Deco dive in which Depth exceeded 30 FT (9 M) for 1 second, a beep will sound and a Run Timer will appear (if set On) displaying 0:00 (min:sec) until started.

- If the SS was set for Off or On, the Timer display will not appear.
- If you descend deeper than 30 FT (9 M) for 10 seconds, the No Deco Main will replace the Timer screen which will reappear upon ascent to 20 FT (6 M) for 1 second.
- If you enter Deco, or a High O2 alarm condition occurs (100%), while the SS Timer is active, the SS function will be disabled for the remainder of that dive.
- If you surface prior to completing the SS, it will be disabled for the remainder of that dive.

DIVE TIME REMAINING (DTR)
The VT 4.0 constantly monitors nitrogen loading and oxygen accumulation, and will display whichever time is the least amount available as DTR on the No Deco Dive Main screen (Fig. 40). The graphic NDC, or OTR, will identify which time is being displayed.

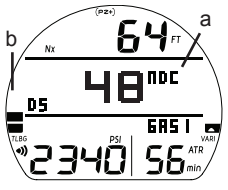

Fig. 40 -NO DECO MAIN
(NDC is DTR)

No Deco DTR (NDC)
NDC is the maximum amount of time that you can stay at your present Depth before entering Deco. It is calculated based on the amount of Nitrogen absorbed by hypothetical tissue compartments. The rates each of these compartments absorb and release Nitrogen is mathematically modeled and compared against a maximum allowable Nitrogen level.

Whichever one is closest to this maximum level is the controlling compartment for that Depth. Its resulting value will be displayed as NDC time (Fig. 40a) and graphically as the TLBG (Fig. 40b).

As you ascend, the TLBG segments will recede as control shifts to slower compartments. *This is a feature of the decompression model that is the basis for multilevel diving, one of the most important advantages that Oceanic dive computers offer.*

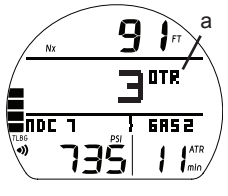

Fig. 41 - NO DECO MAIN
(OTR is DTR)

O2 Time Remaining (OTR)
During Nitrox operation, O2 accumulation during a dive, or 24 hour period, is displayed as a percent of O2 saturation allowed per dive or per day. Max allowed (100%) is 300 OTU.

When time remaining before reaching the O2 limit becomes less than NDC, calculations for that Depth will be controlled by O2 and OTR will be displayed as DTR on the Dive Main (Fig. 41a).

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Air Time Remaining (ATR)
ATR is calculated using a patented algorithm that is based on a diver's individual Air Consumption Rate and Current Depth. Tank Pressure is measured once each second and an average rate of Consumption is calculated over a 90 second period. This Rate of Consumption is then used in conjunction with the Depth to predict the Air required for the diver to make a safe controlled Ascent including the No Deco Deep and Safety Stops and any required Deco Stops.

Air Consumption and Depth are continuously monitored and ATR reflects any change in circumstances. For example, when you suddenly find yourself swimming against a strong current and begin breathing more rapidly, the VT 4.0 will recognize the change and adjust ATR accordingly.

ATR is the time you can remain at the present Depth and still safely surface with the Tank Pressure reserve that you selected during setup (End Pressure Alarm Setting).

ATR is displayed on the Dive Main screens (Fig. 42a).

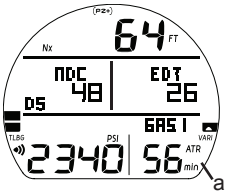


Fig. 42 - NO DECO MAIN

ATR Alarm
When ATR decreases to 5 minutes, the Audible will sound and the ATR time digits and graphic AIR TIME will flash (Fig. 43). If it decreases to 0, the Audible will sound again. The time digits and graphic will continue to flash until ATR becomes greater than 5 minutes.

You should initiate a controlled Ascent while monitoring Tank Pressure. However, there is no reason to panic, the VT 4.0 has allowed for the Air necessary for a safe Ascent including the No Deco Deep and Safety Stops, if set On, and any Deco Stops required.

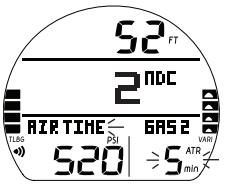
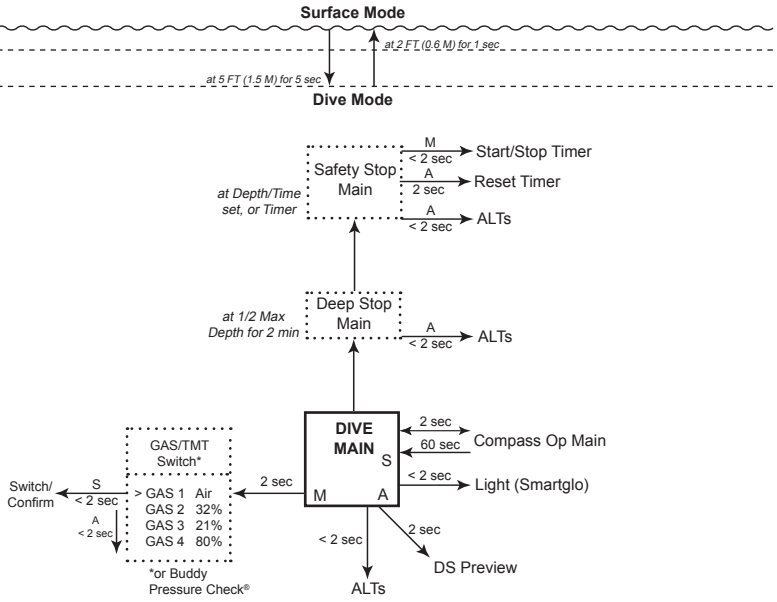


Fig. 43 - NO DECO MAIN
(during ATR Alarm)

NORM DIVE MODE STRUCTURE



NORM

DIVE MODES

NO DECO MAIN, information includes** (Fig. 44) -
***Which information is displayed is determined by the SET D menu selection saved during setup on the surface prior to the dive.*

> Current Depth with FT (or M) icon.
> DTR (up to 199 min) with graphic NDC (or OTR), dashes (- -) if on the surface.
> EDT (up to 599 min) with graphic, if set for display.
> Max Depth with graphic FT (or M) MAX, if set for display.
> Pressure with PSI (or BAR) and Link icons, if Rcvr and TMT are active, flashing when Link is lost.
> Graphic GAS1 (or 2, 3, 4), one in use.
> ATR (up to 199 min) with icons, blank if no TMT, or O2 Data is selected for display, dashes (- -) if on the surface..
> O2 Data, if set for display - including %O2 accumulated with graphic O2 SAT, PO2 value with icon, and FO2 set for Gas indicated (one in use).
> Nx icon - if FO2 is set for nitrox, blank if Air.
> (PZ+) icon - if it is selected as the Algorithm, blank if DSAT.
> CF icon - if Conservative Factor is set On.
> DS graphic - if Deep Stop is set On and has triggered.
> TLBG, VARI - if they apply.

- A (< 2 sec) to access ALTs.
- A (2 sec) to access Deep Stop Preview*, if triggered.
- M (2 sec) to access Gas/TMT Switching (or Buddy Pressure Check®)*.
- S (< 2 sec) to activate Smartglo® Backlight or acknowledge alarms.
- S (2 sec) to access Compass*.

**These items can only be accessed while viewing the Main.*

No Deco Alt 1, information includes (Fig. 45) -
> Graphic ALt 1.
> Time of Day (hr:min) with graphic A (or P) if 12 Hour.
> Temperature with ° icon and graphic F (or C).

- A (< 2 sec) to access ALT 2.
- Revert to Main in 5 sec, if A is not pressed.

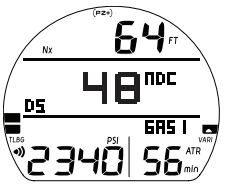
No Deco Alt 2, information includes (Fig. 46) -
> Graphic ALt 2.
> Max Depth with graphic FT (or M) MAX, blank if on Main*.
> EDT (min) with graphic, blank if on Main*.
> Pressure with PSI (or BAR) and Link icons, blank if on Main.
> Graphic GAS1 (or 2, 3, 4), blank if on Main.
> ATR (min) with icons, blank if on Main, dashes (- -) if on the surface.

- A (< 2 sec) to access ALT 3 if Nx, or revert to Main if Air.
- Revert to Main in 5 sec, if A is not pressed.

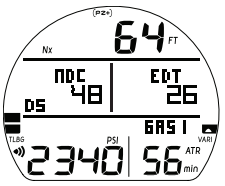
**If Max Depth & EDT are both on the Main, ALT 3 (Fig. 47) becomes ALT 2.*

No Deco Alt 3, information includes (Fig. 47) -
> Graphic ALt 3 with Nx icon.
> %O2 accumulated with graphic O2 SAT.
> PO2 value (x.xx ATA) with icon, dashes (- -) if on the surface.
> Graphic GAS 1 (or 2, 3, 4), one in use.
> FO2 with icon, value set for Gas in use.

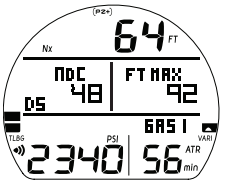
- 5 sec or A (< 2 sec), revert to Main.



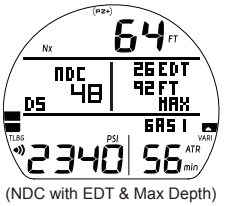
(Default, NDC)



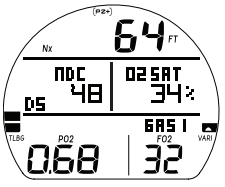
(NDC with EDT)



(NDC with Max Depth)



(NDC with EDT & Max Depth)



(NDC with O2 Data)

Fig. 44 - NO DECO MAIN
(option selected is displayed)

Fig. 45 - NO DECO ALT 1
(Default)

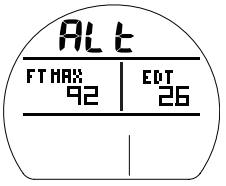


Fig. 46 - NO DECO ALT 2
(Default)

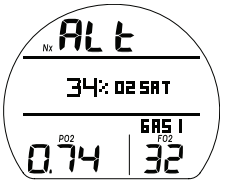


Fig. 47 - NO DECO ALT 3
(Default)

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Deep Stop Preview, information includes (Fig. 48) -
> Current Depth with FT (or M) icon.
> Graphic DEEP STOP with Stop icon (arrows and bar).
> Stop Depth with graphic FT (or M) and countdown Time as 2:00 (min:sec).

- 5 sec, revert to No Deco Main.
- S (< 2 sec) to activate Smartglo® Backlight.

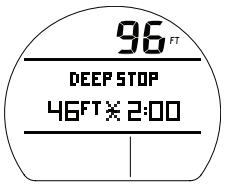

Fig. 48 - DEEP STOP PREVIEW

DEEP STOP MAIN, information includes (Fig. 49) -
> Current Depth with FT (or M) icon.
> Nx, (PZ+), CF icons - if they apply.
> Graphic DEEP STOP with Stop icon (arrows and bar).
> Stop Depth with graphic FT (or M) and countdown Time as 2:00 (min:sec).
> DTR (up to 999 min) with graphic NDC.
> Pressure with PSI (or BAR) and Link icons.
> Graphic GAS1 (or 2, 3, 4), one in use.
> ATR (up to 199 min) with icons.
> TLBG, VARI - if they apply.

- A (< 2 sec) to access ALTs.
- M (2 sec) to access Gas/TMT Switching (or Buddy Pressure Check®)*.
- S (< 2 sec) to activate Smartglo® Backlight or acknowledge alarms.
- S (2 sec) to access Compass*.

**These items can only be accessed while viewing the Main.*

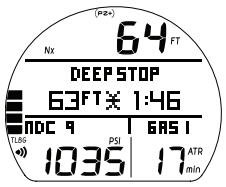

Fig. 49 - DS MAIN

DS Alts, information includes -
#1 >> is similar to No Deco Main (Fig. 44).
#2 >> is similar to No Deco ALT 1 (Fig. 45).
#3 >> is similar to No Deco ALT 2 (Fig. 46).
#4 >> is similar to No Deco ALT 3 (Fig. 47).

SAFETY STOP MAIN, information includes* (Fig. 50A/B) -
> Current Depth with FT (or M) icon.
> Nx, (PZ+), CF icons - if they apply.
> Graphic SAFETY STOP with Stop icon (arrows and bar).
> Stop Depth set with graphic FT (or M) with set time (min:sec) counting down to 0:00,

- or -

> Graphic RUN TIME with Time counting up from 0:00 to 9:59 (min:sec).
> DTR (up to 999 min) with graphic NDC.
> Pressure with PSI (or BAR) and Link icons.
> Graphic GAS1 (or 2, 3, 4), one in use.
> ATR (up to 199 min) with icons.
> TLBG, VARI - if they apply.

- A (< 2 sec) to access ALTs.
- A (2 sec) to reset Timer to 0:00, if in use.
- M (< 2 sec) to start/stop Timer, if in use.
- M (2 sec) to access Gas/TMT Switching (or Buddy Pressure Check®)*.
- S (< 2 sec) to activate Smartglo® Backlight or acknowledge alarms.
- S (2 sec) to access Compass*.

**These items can only be accessed while viewing the Main.*

Fig. 50A - SS MAIN
(set for Depth/Time prior to dive)

^ ^ ^ ^ ^
**Which information is displayed is determined by the Set Point saved during setup of the Set U menu (see page 40).*
v v v v v

Fig. 50B - SS MAIN
(set for Run Timer prior to dive)

SS ALTs, information is similar to No Deco ALTs (Fig. 44 to 47).

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DECOMPRESSION
Decompression mode activates when theoretical No Decompression time and depth limits are exceeded.

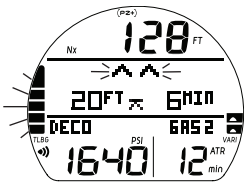

Fig. 51 - DECO ENTRY

Upon entry into Deco, the Audible will sound during which the alarm LED and full TLBG will flash. Two Up Arrows will also flash (Fig. 51), until within 10 FT (3 M) of and below the required Stop Depth (the Stop Zone).

- S (< 2 sec) to silence the Audible.

> Once within 10 FT (3 M) of and below the required Stop Depth (the Stop Zone), the full Stop icon (smaller Up and Down Arrows with Stop Bar) will be displayed solid.

Managing Deco Stops
To fulfill your decompression obligation, you should make a safe controlled Ascent to a depth slightly deeper than, or equal to, the required Stop Depth indicated and decompress for the Stop Time indicated.

The amount of decompression credit time that you receive is dependent on Depth, with slightly less credit given the deeper you are below the Stop Depth indicated.

You should stay slightly deeper than the required Stop Depth indicated until the next shallower Stop Depth appears. Then, you can slowly ascend to, but not shallower than that indicated Stop Depth.

DECO STOP MAIN, information includes (Fig. 52) -
> Current Depth with FT (or M) icon.
> Nx, (PZ+), CF icons - if they apply.
> Graphic DECO STOP with Stop icon (arrows and bar).
> Stop Depth with graphic FT (or M) and Stop Time (up to 599 min) with graphic MIN.
> Pressure with PSI (or BAR) and Link icons.
> Graphic GAS1 (or 2, 3, 4), one in use.
> ATR (up to 199 min) with icons.
> TLBG, VARI - if they apply.

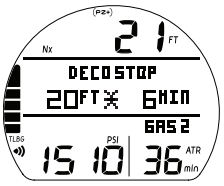

Fig. 52 - DECO STOP MAIN

- A (< 2 sec) to access ALTs.
- M (2 sec) to access Gas/TMT Switching (or Buddy Pressure Check®)*.
- S (< 2 sec) to activate Backlight or acknowledge alarms.
- S (2 sec) to access Compass*.

**These items can only be accessed while viewing the Main.*

Deco Stop Alt 1, information includes (Fig. 53) -
> Graphic ALt 1.
> Time of Day (hr:min) with graphic A (or P) if 12 Hour.
> Temperature with ° icon and graphic F (or C).

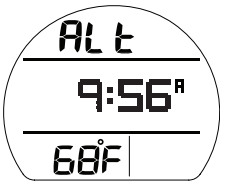

Fig. 53 - DECO STOP ALT 1

- A (< 2 sec) to access ALT 2.
- Revert to Main in 5 sec, if A is not pressed.

Deco Stop Alt 2, information includes (Fig. 54) -
> Graphic ALt 2.
> Max Depth with graphic FT (or M) MAX.
> EDT (min) with graphic.
> Total Ascent Time (up to 599 min) with TAT and min icons.

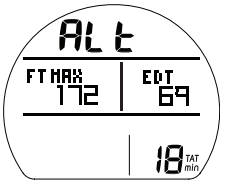

Fig. 54 - DECO STOP ALT 2

- A (< 2 sec) to access ALT 3 if Nx, or revert to Main if Air.
- Revert to Main in 5 sec, if A is not pressed.

Deco Stop Alt 3, information includes (Fig. 55) -
> Graphic ALt 3 with Nx icon.
> %O2 accumulated with graphic O2 SAT.
> PO2 value (x.xx ATA) with icon.
> Graphic GAS 1 (or 2, 3, 4), one in use.
> FO2 with icon, value set for Gas in use.

Fig. 55 - DECO STOP ALT 3

- 5 sec or A (< 2 sec), revert to Main.

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CONDITIONAL VIOLATION (CV)
Upon ascent above the required Deco Stop Depth, operation will enter CV during which no off gassing credit will be given, meaning Deco Stop Time and TAT will not decrease.

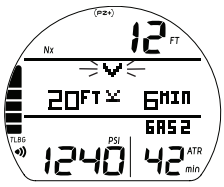

Fig. 56 - CV MAIN

The Audible will sound during which the alarm LED will flash. A Down Arrow will also flash (Fig. 56) until descent is made to below the required Stop Depth, then it is removed.

- S (< 2 sec) to silence Audible.

> Other button operations and displays are similar to Deco.

If descent below the required Deco Stop Depth is made within 5 minutes, operation will resume in Deco with off gassing credit given (Stop Time and TAT decrease).

DELAYED VIOLATION 1 (DV1)
Once above the Deco Stop Depth for more than 5 minutes, operation will enter DV1 which is a continuation of CV**.

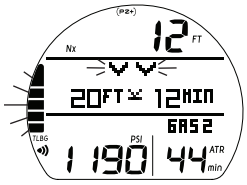

Fig. 57 - DV1 MAIN
(during Audible)

The Audible will sound during which the alarm LED and full TLBG will flash. Two Down Arrows will flash (Fig. 57) until descent is made to below the required Stop Depth.

> Button operations and displays are similar to Deco.

When descent below the required Deco Stop Depth is made, operation will resume in Deco with off gassing credit given (Stop Time and TAT decrease).

***The difference between DV1 and CV is that DV1 causes operation to enter Violation Gauge Mode 5 minutes after surfacing from that dive.*

DELAYED VIOLATION 2 (DV2)
If the calculated Deco obligation requires a Stop Depth between 60 FT (18 M) and 70 FT (21 M), operation will enter DV2.

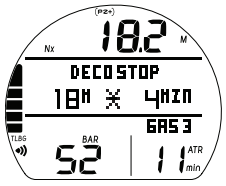

Fig. 58 - DV2 MAIN

Upon entry into DV2**, the Audible will sound during which the alarm LED and full TLBG will flash. Two Up Arrows will also flash until within 10 FT (3 M) of and below the required Stop Depth of 60 FT (18 M).

> Once within 10 FT (3 M) of and below the required Stop Depth, the full Stop icon (smaller Up and Down Arrows with Stop Bar) will be displayed solid (Fig. 58).
> Button operations and displays are similar to Deco.

***The difference between DV2 and general Deco is that DV2 causes operation to enter Violation Gauge Mode 5 minutes after surfacing from that dive.*

DELAYED VIOLATION 3 (DV3)
Upon descent deeper than the MOD**, the Audible will sound during which the alarm LED will flash. Two Up Arrows and the loaded segments of the TLBG will also flash, and Current Depth and Max Depth will only indicate 3 dashes (- - -).

***MOD is the Max Operating Depth at which the VT 4.0 can accurately perform calculations and display data.*

MOD = 330 FT (99.9 M) in NORM and FREE modes.
MOD = 399 FT (120 M) in GAUG mode.

Upon ascending above the MOD, Current Depth will be restored, however, Max Depth will display 3 dashes for the remainder of that dive. Also, the Log for that dive will display 3 dashes as the Max Depth.

DV3 MAIN, information includes (Fig. 59) -

> Current Depth as 3 dashes (- - -) with FT (or M) icon.
> Nx, (PZ+), CF icons - if they apply.
> (2) Up Arrows flashing, until at/above MOD.
> DTR as 3 dashes (- - -) with graphic NDC.
> Pressure with PSI (or BAR) and Link icons.
> Graphic GAS1 (or 2, 3, 4), one in use.
> ATR (up to 199 min) with icons.
> TLBG - flashing for the remainder of that dive.
> VARI while ascending.

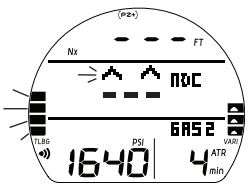

Fig. 59 - DV3 MAIN

- A (< 2 sec) to access ALTs, similar to No Deco.
- M (2 sec) to access Gas/TMT Switching (or Buddy Pressure Check®)*.
- S (< 2 sec) to activate Backlight or acknowledge alarms.
- S (2 sec) to access Compass*.

**These items can only be accessed while viewing the Main.*

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VIOLATION GAUGE MODE (VGM)
If a Deco Stop Depth greater than 70 FT (21 M) is required, operation will enter VGM. This would be preceded by DV2.

Operation would then continue in VGM during the remainder of that dive and for 24 hours after surfacing.

VGM turns the VT 4.0 into a digital instrument without any decompression or oxygen related calculations or displays.

Upon activation of VGM, the Audible will sound during which the alarm LED and full TLBG* will flash. The graphic VIOLATION and (2) Up Arrows will also be displayed flashing, in place of Deco data (Fig. 60), until on the surface.

**After the audible is silenced, the TLBG will be removed.*

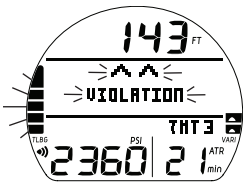

Fig. 60 - VGM MAIN
(activated, during Audible)

VGM Main, information includes (Fig. 61) -
> Current Depth with FT (or M) icon.
> (2) Up Arrows with graphic VIOLATION, flashing until on surface.
> Pressure with PSI (or BAR) and Link icons.
> Graphic GAS1 (or 2, 3, 4), one in use.
> ATR (up to 199 min) with icons.
> VARI while ascending.

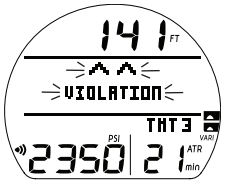

Fig. 61 - VGM MAIN
(after Audible)

- A (< 2 sec) to access ALTs.
- M (2 sec) to access TMT Switching (or Buddy Pressure Check®)*.
- S (< 2 sec) to activate Backlight or acknowledge alarms.
- S (2 sec) to access Compass*.

**These items can only be accessed while viewing the Main.*

VGM ALTs, information is similar to Deco ALTs (Fig. 53 & 54).

VGM ON SURFACE
The graphic VIOLATION flashes for the first 10 minutes (Fig. 62), then VIOL alternates with NORM (each On 3 seconds) until unit shut down after 24 hours with no dives*.

**A full 24 hour surface interval must then be served before all functions are restored.*

During that 24 hours, access to all menus and screens is available except those associated with Ni-O2 calculations such as Desat, Plan, Set FO2. The Fly countdown timer provides the time remaining (of the 24 hours required) before normal operation can resume with full features and functions.

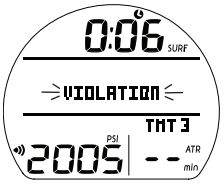

Fig. 62 - VGM MAIN
(on surface < 10 min)

HIGH PO2
Warning >> at Alarm Set Point value minus 0.20 (1.00 to 1.40).
Alarm >> at Set Point value, except in Deco then at 1.60 only.

When partial pressure of oxygen (PO2) increases to the Warning level; the Audible will sound during which an Up Arrow and the PO2 value with icon will flash in place of Pressure (Fig. 63).

> After the Audible is silenced, Pressure is restored, and the Up Arrow remains on solid until PO2 decreases below the warning level.

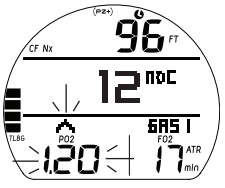

Fig. 63 - PO2 WARNING
(during Audible)

If PO2 continues to increase and reaches the PO2 Alarm level, the Audible will sound again during which (2) Up Arrows and the PO2 value with icon will flash in place of Pressure (Fig. 64).

> After the Audible is silenced, Pressure is restored, and the Up Arrows remain on solid until PO2 decreases below the alarm level, at which time one of the Up Arrows is removed.

(1) Up Arrow is Warning.

(2) Up Arrows is Alarm.

- A (< 2 sec) to access ALTs, similar to No Deco.
- M (2 sec) to access Gas/TMT Switching (or Buddy Pressure Check®)*.
- S (< 2 sec) to activate Backlight or acknowledge alarms.
- S (2 sec) to access Compass*.

**These items can only be accessed while viewing the Main.*

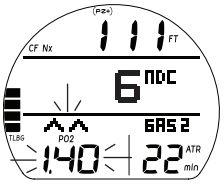

Fig. 64 - PO2 ALARM
(during Audible)

PO2 during Deco
The PO2 alarm that was set does not apply when in Deco.

If PO2 reaches 1.60, the Audible will sound during which the PO2 value with icon will flash in place of Pressure (Fig. 65).

> After the Audible is silenced, the PO2 value with icon will alternate with Pressure once each minute*.

**PO2 will be displayed for 10 seconds, then Pressure will be displayed for 50 seconds once each minute until PO2 decreases below 1.60, then PO2 will not be displayed.*

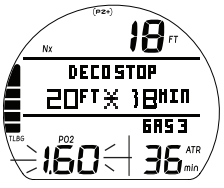

Fig. 65 - PO2 ALARM
(during Audible in Deco)

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HIGH O2

Warning >> at 80 to 99% (240 OTU).
Alarm >> at 100% (300 OTU).

When O2 reaches the Warning level; the Audible will sound during which the O2 value with graphic %O2SAT and an Up Arrow will flash (in place of DTR) until the audible is silenced (Fig. 66), then DTR will be restored. The Up Arrow will remain on solid until O2 decreases below 80%.

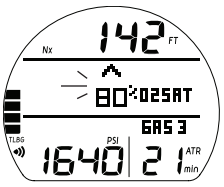

Fig. 66 - O2 WARNING
(during Audible, No Deco)

^ ^ ^ ^ ^
(1) Up Arrow is Warning.

(2) Up Arrows is Alarm.
v v v v v

If O2 reaches the Alarm level; the Audible will sound again during which (2) Up Arrows and the O2 value 100 with graphic %O2SAT will flash until on the surface (Fig. 67).

- A (< 2 sec) to access ALTs, similar to No Deco.
- M (2 sec) to access Gas/TMT Switching (or Buddy Pressure Check®)*.
- S (< 2 sec) to activate Backlight or acknowledge alarms.
- S (2 sec) to access Compass*.

**These items can only be accessed while viewing the Main.*

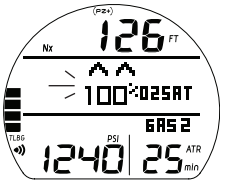

Fig. 67 - O2 ALARM
(No Deco, until on surface)

High O2 during Deco

When O2 reaches the Warning Level; the Audible will sound during which the O2 value will flash in place of Stop Depth/Time until the Audible is silenced, then Stop Depth/Time will be restored. *No indication (Up Arrow) is given to ascend.*
When O2 reaches 100%, the Audible will sound again during which the O2 value 100 and (2) Up Arrows will flash until on the surface (Fig. 68). *The full TLBG remains on solid as a reminder of Deco.*

- A (< 2 sec) to access ALTs, similar to No Deco.
- M (2 sec) to access Gas/TMT Switching (or Buddy Pressure Check®)*.
- S (< 2 sec) to activate Backlight or acknowledge alarms.
- S (2 sec) to access Compass*.

**These items can only be accessed while viewing the Main.*

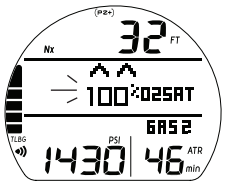

Fig. 68 - O2 ALARM
(in Deco, until on surface)

High O2 on Surface

Upon ascent to 2 FT (0.6 M) for 1 second (surfacing), the Dive Main screen is displayed for 10 minutes with access to the Dive ALTs allowed. Surface Interval Time with the SURF icon flashing will be displayed in place of Depth (Fig. 69).

> If O2 is 100%, the value will flash on the Main until it is < 100%, then it will be replaced with dashes and graphic NDC until 10 minutes elapse, then NORM Surface Main.
> If you surface due to 100% O2 without having completed the Deco obligation, the O2 value 100 with graphic %O2SAT will flash for the first 5 minutes, then dashes will be dipslayed and operation will enter VGM.

Fig. 69 - HIGH O2 ALARM
(on surface < 10 min)

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GAS/TMT SWITCHING

AND

BUDDY PRESSURE CHECK®

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OVERVIEW

> Can only switch when a Dive Main screen is displayed.
> Cannot Switch Gas or TMTs on surface.
> Cannot Switch Gas or TMTs during sounding of alarms.
> All NORM dives begin with Gas 1 and default to Gas 1 after 10 minutes on the surface.
> Switching Gas also switches TMTs, if being used.

Fig. 70 - NORM GAS/BUD MENU

The following will describe NORM GAS/TMT Switching, then GAUG TMT Switching, then Buddy Pressure Check®.

NORM GAS/BUD MENU, information includes (Fig. 70):
While a Dive Main is displayed, M (2 sec) - to access the Menu.

> Graphic CHNG (change).
> Graphic selections GAS 1, GAS 2 (or BUD 1), GAS 3 (or BUD 2), GAS 4 (or BUD 3) with FO2 setting (or graphic PRESSURE, if BUD).

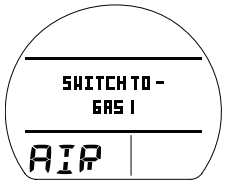

Fig. 71 - GAS SWITCH

- A (< 2 sec) - to step forward (down) through selections
- M (< 2 sec) - to step back (up) through selections
- S (< 2 sec)* - to access selection indicated by Arrow (>).

**If GAS x, a Gas Switch screen appears (Fig. 71 or 72).*

**If BUD x, a Search for Buddy screen appears (see page xx).*

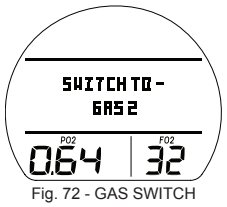

Fig. 72 - GAS SWITCH

Gas Switch To, information includes (Fig. 72):
> Graphics SWITCH TO - GAS 1 (2, 3, 4).
> Graphic AIR; or if Nitrox, the PO2 calculated and FO2 set for that Gas with icons.

- S (< 2 sec) - to confirm a Switch from the Gas in use to the Gas indicated (after 2 sec),

  > display a TMT Search screen (Fig. 73) or Not Available message if the TMT is not reporting (Fig. 74),

  > then after 10 sec, revert to Main with the new Gas/TMT selected.

If the Gas/TMT are not switched to the same source (tank) as the gas being breathed, ATR will increase to maximum after 1 minute without a change in transmitted Pressure.

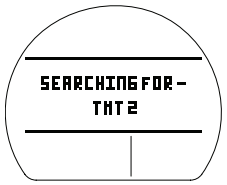

Fig. 73 - TMT SEARCH

Gas Switch Alarm
If a switch to the Gas would result in PO2 => 1.60, the Audible will sound and a warning message will flash (Fig. 75) until it is silenced, then the Switch To screen will be restored.

> Due to the possibility that sufficient air may not be available in the Switch From tank, the switch will still be allowed.
> If the switch is made, the PO2 alarm will strike. If in Deco, indication to ascend will not be given (you control action to be taken).

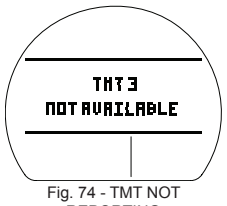

Fig. 74 - TMT NOT REPORTING

GAUG TMT/BUD MENU, information includes (Fig. 76):
While a Dive Main is displayed, M (2 sec) - to access the Menu.

> Graphic CHNG (change).
> Graphic selections TMT 1, TMT 2 (or BUD 1), TMT 3 (or BUD 2), TMT 4 (or BUD 3) with graphic PRESSURE.

- A (< 2 sec) - to step forward (down) through selections
- M (< 2 sec) - to step back (up) through selections
- S (< 2 sec)* - to access selection indicated by Arrow (>).

*If *TMT x, a Search for TMT screen appears (Fig. 77), or a Not Available message is displayed if the TMT is not reporting.*

*If *BUD x, a Search for Buddy screen appears (see page xx).*

> After the TMT Search screen is displayed for 10 seconds, operation reverts to the Dive Main with the new TMT selected.

> If the TMT is not switched to the same source (tank) as the one being breathed from, ATR will increase to maximum after 1 minute without a change in transmitted Pressure.

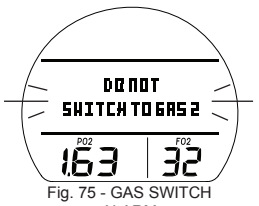

Fig. 75 - GAS SWITCH ALARM

Fig. 76 - GAUG TMT SWITCH MENU

Fig. 77 - TMT SEARCH

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NORM/GAUG Buddy Pressure Check®
When BUD 1 (2, 3) is selected from the NORM (or GAUG) Switch Menu, a Buddy Search screen is displayed (Fig. 78), then after 10 seconds, a Buddy Status screen is displayed for 10 seconds, then operation reverts to the Dive Main.

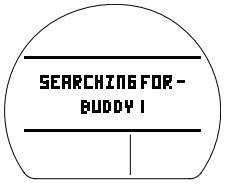


Fig. 78 - BUDDY SEARCH

BUDDY Status, information includes (Fig. 79):
> Graphics BUDDY 1 (2, 3) PRESSURE.
> Pressure with PSI (or BAR) and Link icons.

- - or - -

> Graphic message BUDDY 1 (2, 3) NOT AVAILABLE, if that TMT is not reporting (possibly out of range).

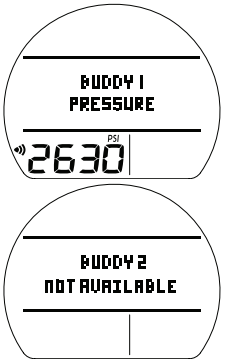
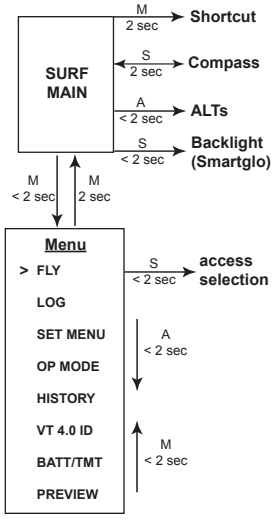


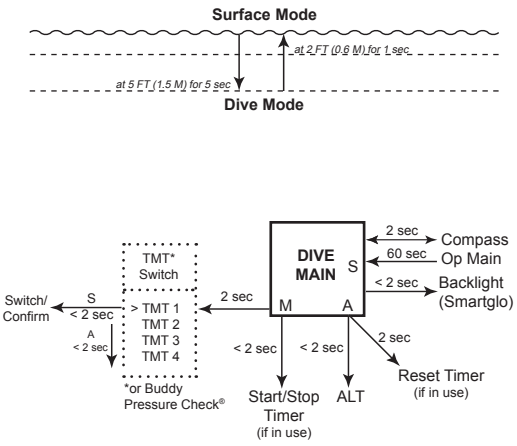
Fig. 79 - BUDDY STATUS

BUD Status on Surface
Buddy Pressure can be checked when on the Surface by accessing the TMT Status screens from the NORM (or GAUG) Surface Main Menu.

GAUG SURFACE



GAUG DIVE



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GAUG

OP MODE

GAUG SURF MAIN, information includes (Fig. 80):
> SI (hr:min) with Time (clock) and SURF icons; if no dive yet, this is time since activation.
> Graphic GAUG (operating mode).
> Graphic DIVE and number of dives completed during that operating period, up to 24 (0 if no dive made yet).
> Graphic TMT 1, default on surface before first dive and 10 minutes after surfacing from dives.
> Tank Pressure with PSI (or BAR) and Link (speaker) icons, if the Receiver is successfully Linked with an active TMT (Transmitter), 000 flashing after 15 seconds of lost Link.
> Battery icon, if voltage is low.

Fig. 80 - GAUG SURF MAIN
(no dive yet)

- A (< 2 sec) to access ALT 1.
- M (< 2 sec) to access GAUG Main Menu.
- M (2 sec) to access GAUG Shortcut.
- S (2 sec) to access Compass.
- S (< 2 sec) to activate Smartglo Backlight.

GAUG SURF ALT 1, information includes (Fig. 81):
> SI* (hr:min) with Time (clock) and SURF icons.
> Max Depth* with graphics FT (or M) and MAX.
> Elapsed Dive Time* (hr:min) with graphic EDT.
> Graphic LAST, indicating that data is from the dive previously conducted while in GAUG mode.

**Dashes if no previous dive.*

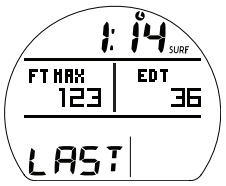


Fig. 81 - GAUG SURF ALT 1
(Last dive's data)

- A (< 2 sec) to access ALT 2.
- 10 sec, revert to Main if A is not pressed.
- S (< 2 sec) to activate Backlight.

GAUG SURF ALT 2, information includes (Fig. 82):
> Altitude graphic, if EL - 2 (to EL - 7), blank if Sea level.
> Time of Day (hr:min) with graphic A (or P).
> Temperature with ° icon and graphic F (or C).

Fig. 82 - GAUG SURF ALT 2
(Last dive's data)

- A (< 2 sec) to access ALT 3.
- 5 sec, revert to Main if A is not pressed.
- S (< 2 sec) to activate Backlight.

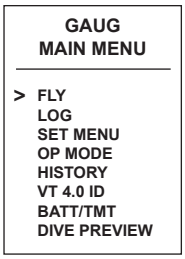
GAUG SURF ALT 3, information includes (Fig. 83):
> Graphics GAUG and AVE (average).
> Average Depth* with graphic FT (or M).
> Average EDT* (min) with graphic.

**These are average values calculated for the dive, or series of repetitive dives, conducted while still in GAUG.*

Fig. 83 - GAUG SURF ALT 3
(average values)

- A (< 2 sec) to revert to Main.
- 5 sec, revert to Main if A is not pressed.
- S (< 2 sec) to activate Backlight.

GAUG MENU
- M (< 2 sec) to access Menu, while viewing Surface Main.
- A (< 2 sec) to step forward through selections (down screen).
- A (hold) to scroll forward through selections (down screen) at a rate of 4 per second.
- M (< 2 sec) to step back through selections (up screen).
- S (< 2 sec) to access the selection indicated by pointer icon (>).
- S (2 sec) to revert from the Main Menu to Surface Main.
- M (2 sec) any time to revert to Surface Main.
- 2 min (no button action) will revert to Surface Main.



FLY, information includes (Fig. 84):
> Graphic FLY with countdown time (hr:min) and Time (clock) icon, dashes if no dive yet.

- S (< 2 sec) to revert to Main Menu.

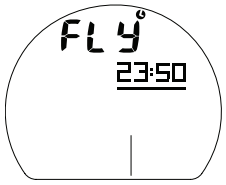


Fig. 84 - FLY
(10 min after dive)

LOG, shared with NORM (see page 12).

SET MENU, similar to NORM (see page 13).
> GAUG does not access the Set F (FO2) Menu.

OP MODE, similar to NORM (see page 13).

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HISTORY, shared with NORM (see page 14).

VT 4.0 ID, same as NORM (see page 14).

BATT/TMT STATUS, same as NORM (see page 14).

DIVE PREVIEW
This feature provides quick access to a screen that displays up to 4 settings that can be pre selected* using the Set P Menu.

Preview, information includes (Fig. 85):
> Graphics GAU and PREV.
> Selections* with Set Points entered using that menu.

- S (< 2 sec) to revert to the Main Menu.

Fig. 85 - GAUG DIVE PREVIEW

**If no selections have been made yet, the center of the screen will be blank.*

SET GROUPS
Information that follows describes the selections contained in the GAUG Set Groups (A, U, T, S, D, P) that are accessed from the Set Menu.

Main Menu >> Set Menu >> Set Group Menu >> Set Selection.

SET A (ALARMS), shared with NORM (see page 16).

SET U (UTILITIES), shared with NORM (see page 16).

SET T (TIME/DATE), shared with NORM (see page 17).

SET S (Shortcut) Menu, information includes (Fig. 86):
> Graphics SEt S and MENU.

Selections include:
> LOG MENU.
> MY INFO (default Shortcut until another item is selected)
> SET HEADING.
> SET TIME.

One item can be selected from the list. That item (referred to as a Shortcut) can then be accessed directly by pressing M (2 sec) while viewing the Surface Main.

Fig. 86 - GAUG SET S

- A (< 2 sec) to step forward (down) through selections.
- M (< 2 sec) to step back (up) through selections.
- S (< 2 sec) when the pointer icon (>) is next a selection will save it as the Shortcut and revert to the Set Menu.
- S (2 sec) to revert to Main Menu.

SET D (Dive Main) Menu, information includes (Fig. 87):
> Graphics SEt d and MENU.

The default screen for dives displays Current Depth, Run Timer, Pressure, and ATR (air time remaining). Max Depth is displayed on an Alternate screen. Set D allows it to be added to the Main (moving it from the Alternate).

Fig. 87 - GAUG SET D

Selections include:
> USE DEFAULT >> *no change to the display.*
> ADD MAX D >> *also reduces the size of NDC digits.*

- A (< 2 sec) to step forward (down) through selections.
- M (< 2 sec) to step back (up) through selections.
- S (< 2 sec) when the pointer icon (>) is next to a selection will save* it as the Dive Main and revert to the Set Menu.
- S (2 sec) to revert to Main Menu.

Ensure that the selection to be saved reflects information you want to see on the Dive Main, it cannot be changed during the dive (only while on the surface using this menu).

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SET P (Preview) Menu, information includes (Fig. 88):
> Graphics SEt P and MENU.

Using this menu, you can chose up to 4 items (Set Points that have been entered) for display on a Preview screen that can be accessed from the Surface Main Menu.

Selections include:
> DEPTH AL SET.
> EDT AL SET.
> TURN AL SET.
> END AL SET.
> GLO DUR SET.
> MAX OP DEPTH.
> TMT 1 SET.
> TMT 2 SET.
> TMT 3 SET.
> TMT 4 SET.

- A (< 2 sec) to step forward through Menu selections.
- M (< 2 sec) to step back through Menu selections.
- S (< 2 sec) when the pointer icon (>) is next a selection will toggle* it between solid and flashing.

**Once 4 items are flashing, another item cannot be toggled to flash until one of the flashing items is toggled to solid.*

When satisfied that those items flashing (up to 4) are what you want for the Preview screen, press S (2 sec) to display all items flashing (Fig. 89), then press S (< 2 sec) to revert to the Preview screen with all items solid.

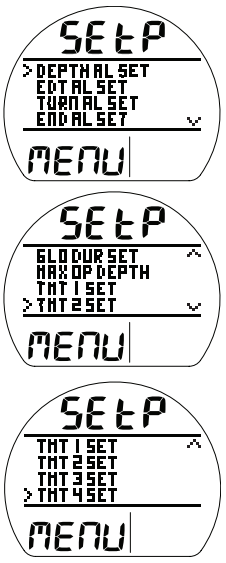


Fig. 88 - SET P
(stepping through)

Fig. 89 - SET P MENU
(preview of selections)

Upon descent to 5 FT (1.5 M) for 5 seconds, operation will enter GAUG Dive Mode.

GAUG DIVE MAIN, information** includes (Fig. 90A/B) -
***Which information is displayed on the Main screen and which is on the Alternates is determined by the SET D menu selection saved during setup on the surface prior to the dive.*

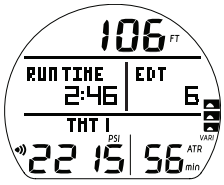


Fig. 90A - GAUG DIVE MAIN
(default screen)

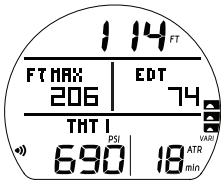


Fig. 90B - GAUG DIVE MAIN
(if selected)

> Current Depth with FT (or M) icon.
> Graphic RUN TIME with Time (up to 999:59 min:sec), 0:00 until started and after reset.
> Max Depth with graphics FT (or M) and MAX, if set for display.
> Graphic EDT with Elapsed Dive Time (up to 599 min).
> Graphic TMT 1 (2, 3, 4), one in use.
> Pressure with PSI (or BAR) and Link icons, if Rcvr and TMT are active, flashing when Link is lost.
> ATR (up to 199 min) with ATR and min icons, dashes (- -) if on the surface.
> VARI while ascending.

- A (< 2 sec) to access ALT.
- A (2 sec) to Reset Run Timer (to 0:00).
- A (< 2 sec) to Start/Stop the Run Timer.
- M (2 sec) to access TMT Switching (or Buddy Pressure Check®)*.
- S (< 2 sec) to activate Smartglo® Backlight or acknowledge alarms.
- S (2 sec) to access Compass*.

**These items can only be accessed while viewing the Main.*

GAUG DIVE ALT, information includes (Fig. 91A/B) -
> Graphic ALt.
> Max Depth with MAX and FT (or M) icons, if Run Timer is on Main.
> Time of Day (hr:min) with graphic A (or P) if 12 Hour.
> Temperature with ° icon and graphic F (or C).

- A (< 2 sec) to revert to Main.
- Revert to Main in 5 sec, if A is not pressed.
- S (< 2 sec) to activate Smartglo® Backlight.

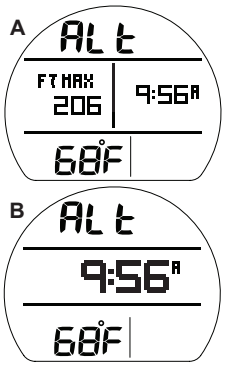


Fig. 91 - GAUG DIVE ALT

GAUG DELAYED VIOLATION 3 (DV3)
Upon descent deeper the MOD (Max Operating Depth) of 399 FT/120 M, the Audible will sound during which the alarm LED and (2) Up Arrows will flash (Fig. 92).

Current Depth and Max Depth will only indicate 3 dashes (- - -) signifying that you are Out of Range. The Up Arrows will flash until ascent is made above the MOD.

Upon ascending above the MOD, Current Depth will be restored, however, Max Depth will display 3 dashes for the remainder of that dive. Also, the Log for that dive will display 3 dashes as the Max Depth.

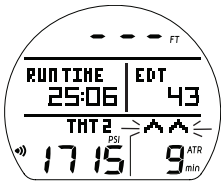
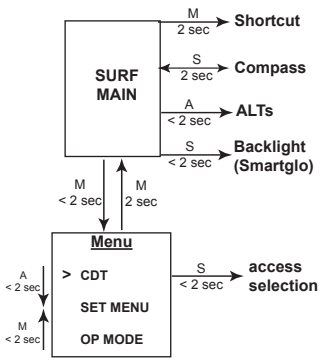
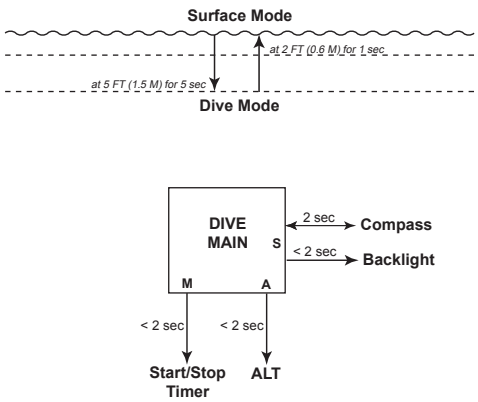


Fig. 92 - GAUG DV3 MAIN
(default with Timer)

FREE SURFACE



FREE DIVE



FREE DIVE

OP MODE

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FREE SURF MAIN, information includes (Fig. 93):
> SI (min:sec up to 59:59, then hr:min) with Time (clock) and SURF icons.
> Graphic FREE (operating mode).
> Graphic DIVE and number of dives completed during that operating period, up to 99 (0 if no dive made yet).
> Temperature with ° icon and graphic F (or C).
> Battery icon, if voltage is low.

- A (< 2 sec) to access ALT 1.
- M (< 2 sec) to access FREE Main Menu.
- M (2 sec) to access FREE Shortcut.
- S (2 sec) to access Compass.
- S (< 2 sec) to activate Smartglo Backlight.

Fig. 93 - FREE SURF MAIN
(no dive yet)

FREE SURF ALT 1, information includes (Fig. 94):
> SI (min:sec) with Time (clock) and SURF icons.
> Max Depth with graphics FT (or M) and MAX.
> Elapsed Dive Time (min:sec up to 9:59, then 10 - if >) with graphic EDT.
> Graphic LAST, indicating that data is from the dive previously conducted while in FREE mode.

- A (< 2 sec) to access ALT 2.
- 10 sec, revert to Main if A is not pressed.
- S (< 2 sec) to activate Backlight.

Fig. 94 - FREE SURF ALT 1
(Last dive)

FREE SURF ALT 2, information includes (Fig. 95):
> Altitude graphic, if EL2 (to EL7), blank if Sea level.
> Time of Day (hr: min) with graphic A (or P).

- A (< 2 sec) to revert to Main.
- 5 sec, revert to Main if A is not pressed.
- S (< 2 sec) to activate Backlight.

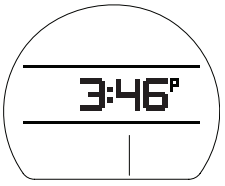

Fig. 95 - FREE SURF ALT 2
(EL if above Sea level)

FREE MENU
- M (< 2 sec) to access Menu (Fig. 96), while viewing FREE Surface Main.
- A (< 2 sec) to step forward (down) through selections.
- M (< 2 sec) to step back (up) through selections.
- S (< 2 sec) to access the selection indicated by pointer icon (>).
- S (2 sec) to revert from the Main Menu to Surface Main.
- M (2 sec) any time to revert to Surface Main.
- 2 min (no button action) will revert to Surface Main.

Fig. 96 - FREE SURF MENU

CD TIMER (Countdown Timer)
Upon access from the Menu, one of the following is displayed -
> OFF solid and 0:00, if no time was previously set.
> ON and the remaining CD Time (min:sec), if running.
> OFF flashing and the time previously set, if it has ended.

CDT Status, information includes (Fig. 97):
> CD Time (min:sec) with Time (clock) icon.
>> 0:00 with colon solid, if no time set.
>> 0:00 with colon flashing, if On and no time left.
>> remaining time with colon flashing, if On and running.
>> time previously set with colon solid, if not started yet.
> Graphic OFF, select to Stop CD if running.
> Graphic ON, select to Start CD if a time is displayed (stopped or not yet started).
> Graphics SET and MIN:SEC, select to set a CD time.

- A (< 2 sec) to step forward (down) through selections.
- M (< 2 sec) to step back (up) through selections.
- S (2 sec) to revert to Main Menu.
- S (< 2 sec) to save the selection and ->
  >> if OFF or ON, Stop or Start the CD then revert to Main.
  >> if SET, the graphic MIN and left (minute) digits of the Time will flash (Fig. 98).

  - A (hold) to increase Minute Set Point at a rate of 8 per second from 0: to 59: in increments of 1: (min).
  - A (< 2 sec) to increase Set Point one at a time.
  - M (< 2 sec) to decrease Set Point one at a time.
  - S (< 2 sec) to save the Minute setting and flash the Seconds digits and graphic SEC.

- A (hold) to increase Seconds Set Point at a rate of 8 per second from :00 to :59 in increments of :01 (sec).
- A (< 2 sec) to increase the Set Point one at a time.
- M (< 2 sec) to decrease the Set Point one at a time.
- S (< 2 sec) to save the full CDT min:sec setting and revert to the CDT Status screen with OFF flashing.

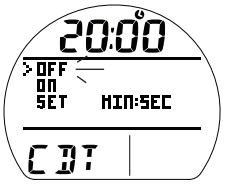

Fig. 97 - CDT STATUS

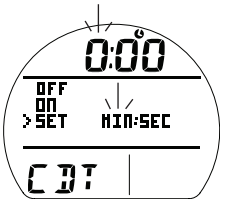

Fig. 98 - SET CDT

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The CDT will run in the background, while on the surface and during dives, until it counts down to 0:00, or it is turned OFF.

When a set CDT reaches 0:00, the Audible will sound during which the graphic CDT will be displayed with 0:00 flashing on the Surface or Dive Main (Fig. 99).

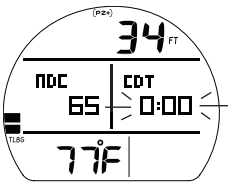

Fig. 99 - FREE DIVE MAIN (during CDT alarm)

SET MENU, information includes (Fig. 100):
- > Graphics SEt and MENU with selections that include >>
- > S - SHORTCUT.
- > D - DIVE MAIN.
- > A - ALARMS.

- A (< 2 sec) to step forward (down) through selections.
- M (< 2 sec) to step back (up) through selections.
- S (< 2 sec) to access the selection next to the pointer (>).
- S (2 sec) to revert to Main Menu.

Fig. 100 - FREE SET MENU

OP MODE, similar to NORM (see page 13).

SET GROUPS

Information that follows describes the selections contained in the FREE Set Groups (S, D, A) that are accessed from the Set Menu.

Main Menu >> Set Menu >> Set Group Menu >> Set Selection.

SET S (Shortcut) Menu, information includes (Fig. 101):
- > Graphics SEt S and MENU, with selections ->
  - > MY INFO (default Shortcut until another item is selected).
  - > CD TIMER.
  - > SET HEADING.
  - > SET DEPTH ALARM 1.

One item can be selected from the list. That item (referred to as a Shortcut) can then be accessed directly by pressing M (2 sec) while viewing the Surface Main.

- A (< 2 sec) to step forward (down) through selections.
- M (< 2 sec) to step back (up) through selections.
- S (< 2 sec) when the pointer icon (>) is next a selection will save it as the Shortcut and revert to the Set Menu.

Fig. 101 - SET S MENU

SET D (Dive Main) Menu, information includes (Fig. 102):
- > Graphics SEt d and MENU, with selections ->
  - > USE DEFAULT >> *no change to the display.*
  - > ADD CD TIMER >> *replaces EDT.*

The default screen for dives displays Current Depth, NDC, EDT, and Temperature. Set D adds CDT, eliminating EDT.

- A (< 2 sec) to step forward (down) through selections.
- M (< 2 sec) to step back (up) through selections.
- S (< 2 sec) when the pointer icon (>) is next to a selection will save* it as the Dive Main and revert to the Set Menu.

Ensure that the selection to be saved reflects information you want to see on the Dive Main, it can only be changed while on the surface using this menu.

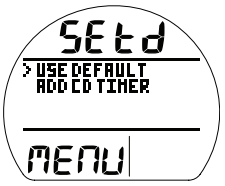

Fig. 102 - SET D MENU

SET A (Alarms) Menu, information includes (Fig. 103):
- > Graphics SEt A and MENU.

Selections with their last Set Points saved include:

- > EDT with Set Point (OFF or ON).
- > DEPTH 1 with Set Point (OFF, or 30 to 330 FT, or 10 to 100 M), increments of 10 FT (1 M).
- > DEPTH 2* with Set Point (OFF, or 40 to 330 FT, or 11 to 100 M), increments of 10 FT (1 M).
- > DEPTH 3* with Set Point (OFF, or 50 to 330 FT, or 12 to 100 M), increments of 10 FT (1 M).

When set On, the EDT alarm sounds the audible every 30 seconds while underwater in FREE Dive Mode.

**Depth alarm 2 must be set at a value > 1, and 3 must be > 2.*

- A (< 2 sec) to step forward (down) through selections.
- M (< 2 sec) to step back (up) through selections.
- S (< 2 sec) when the pointer icon (>) is next to a selection will flash that item's Set Point (Fig. 104).
  - A (< 2 sec) to toggle or increase Set Point.
  - A (hold) to increase Depth Set Points at a rate of 8 per second.
  - M (< 2 sec) to decrease Set Point one at a time.
  - S (< 2 sec) to save the setting (stops flashing).

Fig. 103 - SET A MENU

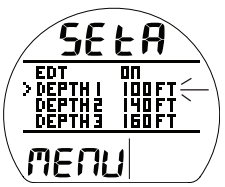

Fig. 104 - SET FREE DEPTH ALARM 1

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FREE DIVE MAIN, information includes (Fig. 105) -
> (PZ+) icon, if algorithm selected.
> Current Depth with FT (or M) icon.
> Graphic NDC with Time Remaining (min), dashes (- -) if on the surface.
> Graphic EDT with Elapsed Dive Time (min:sec), or ->
> Graphic CDT with Countdown Time (min:sec).
> TLBG with icon, if any.

- A (< 2 sec) to access ALT.
- M (< 2 sec) to start/stop CDT, if selected.
- S (2 sec) to access Compass.
- S (< 2 sec) to activate Backlight.

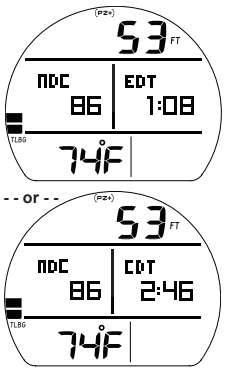

Fig. 105 - FREE DIVE MAIN

FREE DIVE ALT, information includes (Fig. 106) -
> Graphic ALt.
> Max Depth with graphic FT MAX (or M MAX).
> Time of Day with graphic A (or P).

- 5 sec or A (< 2 sec), revert to Main
- S (< 2 sec) to activate Backlight.

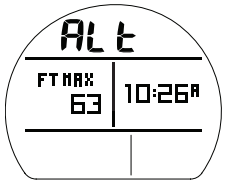

Fig. 106 - FREE DIVE ALT

FREE DIVE ALARMS
FREE mode alarms, which are separate from NORM (or GAUG) alarms, sound 1 or 3 times as (3) short beeps then clear.

They cannot be acknowledged or silenced.

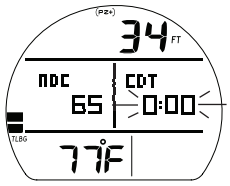

Fig. 107 - FREE CDT ALARM

FREE CDT Alarm
When a set Countdown Time reaches 0:00, the Audible Alarm will sound during which time the graphic CDT will be displayed with 0:00 flashing on the Main screen (Fig. 107). If EDT was displayed, it be restored after the audible.

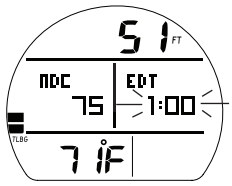

Fig. 108 - FREE EDT ALARM

FREE EDT Alarm
When set ON, the EDT alarm activates every 30 seconds during a dive. The Audible will sound during which time the EDT Time digits will flash on the Main (Fig. 108).

FREE Depth Alarms
When set ON, the Depth alarms (1, 2, 3) activate at their set Depths. The Audible will sound during which time the Depth digits will flash on the Main (Fig. 109).

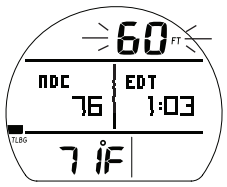

Fig. 109 - FREE DEPTH ALARM

High Nitrogen Alarms
When nitrogen increases to the caution level (4 segments), the Audible will sound during which time the TLBG will flash on the Main (Fig. 110).

In the event that nitrogen continues to increase and reaches the Deco level; the Audible will sound, during which all 5 TLBG segments, (2) Up Arrows, and the graphics VIOLATION DECO, will flash (Fig. 111A).

When the Audible is silenced, the TLBG and graphic DECO are removed (Fig. 111B). The Up Arrows flash until on the surface and the graphic VIOLATION flashes until 1 minute elapses on the surface.

After 1 minute on the surface, the graphic VIOL alternates with FREE with operation only in Violation Gauge Mode for 24 hours.

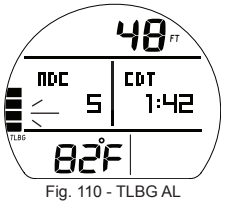

Fig. 110 - TLBG AL

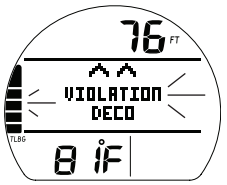

Fig. 111A - FREE VIOLATION (entry into Deco, during Aud)

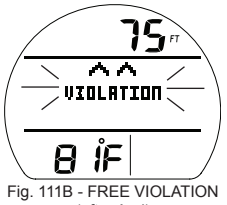

Fig. 111B - FREE VIOLATION (after Aud)

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ADDITIONAL INFORMATION PERTAINING TO FREE DIVE MODE

Although breathing apparatus is not utilized for FREE Dive activities, nitrogen tissue loading remains a factor. Nitrogen loading is calculated based upon a fixed FO2 of AIR.

Since a user has the option of alternating between NORM (SCUBA) and FREE Dive activities within a 24 hour period, nitrogen calculations and the displayed value of No Deco Dive Time Remaining (NDC Time) are carried over from one operating mode to the other, which permits the user to maintain awareness of nitrogen absorption and offgasing status.

The mathematical models currently used in the VT 4.0 are based on no decompression/decompression multilevel repetitive dive schedules.

These algorithms do not take into account the physiological changes associated with the high pressures that competitive type Free diving can expose a diver to.

⚠ WARNINGS

Ensure that you know which Operating Mode is selected (NORM, GAUG, or FREE) prior to commencing any dive.

Conducting Free dives within a 24 hour period after conducting SCUBA dives, combined with the effects of multiple rapid Free Dive ascents, increases your risk of decompression sickness. Such activities may result in accelerated entry into decompression which could cause serious injury or death.

Combining competitive type Free dive activities that involve multiple descents/ascents with activities utilizing SCUBA during the same 24 hour period is not recommended. Presently, there is no data relating to such activities.

It is highly recommended that anyone planning to become involved in competitive type Free dive activities obtain proper instruction and training from a recognized Free Diving trainer. It is imperative that the physiological affects be understood and the diver is physically prepared.

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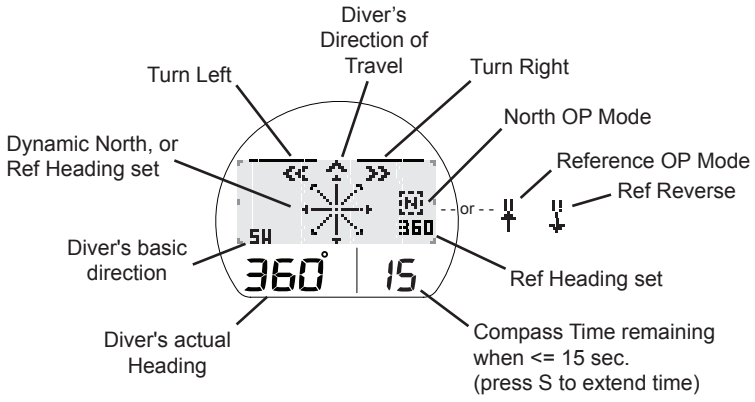
COMPASS MODE

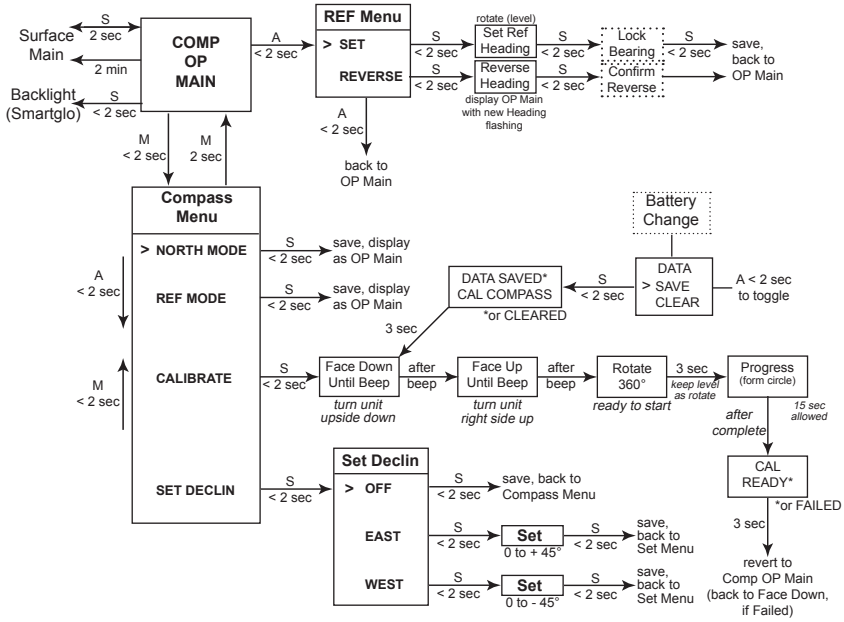
COMPONENTS



WARNING: You must become thoroughly familiar with setup and operation of the VT 4.0 Digital Compass before using it as your primary device for navigation. Failure to do so could result in serious errors relating to activities involving navigation.

- **Practice on land before use in water.**
- **Practice on the surface before use underwater.**

COMPASS MODE SURFACE



OVERVIEW

> S (2 sec) to access Compass OP Main from Surface or Dive Main.
> S (2 sec) or no button action (2 min*) to revert to Surface or Dive Main.

**During the final 15 seconds, the remaining On time is displayed. If a button is pressed during that time, the 2 minute On time will reset allowing operation to remain in Compass Mode.*

> Compass OP Mode selected (North or Reference) - remains until changed.
> Reference OP Mode - can set a course, then also select a Reverse course while on the surface and during dives.
> Numeric values are displayed as 3 digits (000 to 360°), have a resolution of 001°, and an accuracy of +/- 005°.
> Operation will be normal and display of values will be within specified tolerances up to 90° tilt at which time the Heading (diver's direction) digits are removed until the tilt angle is corrected.

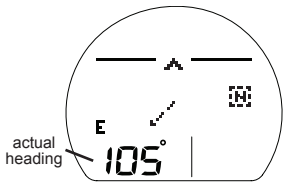


Fig. 112 - NORTH OP MODE

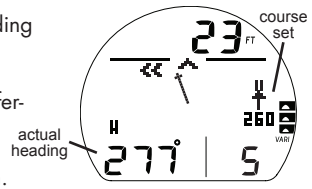


Fig. 113 - REF OP MODE

Upon accessing the Compass, the OP (operating) Main of the last mode selected will be displayed >> North (Fig. 112), Reference (Fig. 113), or Reverse Reference (Fig. 114).

While on the surface, press M (< 2 sec) to access the Compass Menu to change the OP Mode, Calibrate, or set Declination.

COMPASS MENU, information includes (Fig. 115) -

> Graphics SEL (select) and MENU, with selections ->
> NORTH MODE - select as OP Mode with no set heading.
> REF MODE - select as OP Mode with set heading allowed.
> CALIBRATE - access to initiate Calibration.
> SET DECLIN - access to set Declination.
> Compass On time remaining, counting down from 15 to 0 (sec), blank when > 15 seconds.

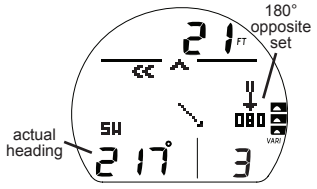


Fig. 114 - REVERSE REF

- A (< 2 sec) to step forward (down) through selections.
- M (< 2 sec) to step back (up) through selections
- S (< 2 sec) to select or access item indicated by (>) icon.

If NORTH or REF MODE is selected, that mode will be saved and its OP Main will be displayed.

Fig. 115 - COMPASS MENU

- M (2 sec) any time to revert to Compass OP Main.
- No button action (2 min) to revert to Surface or Dive Main.

NORTH OP MAIN, information includes (Fig. 116) -

> Current Depth with FT (or M) icon, Surface Interval during first 10 min on surface, blank on surface > 10 min.
> North Mode icon (letter N in box).
> Static Arrow icon (at 12 o'clock), diver direction of travel.
> Dynamic Arrow, relative direction of magnetic North.
> Numeric heading (diver's current direction), 001 to 360°, with position graphic (N, E, SE, etc.).
> On time remaining, counting down, if 15 to 0 (sec).

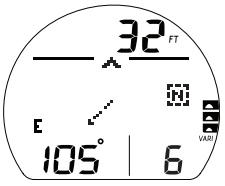


Fig. 116 - NORTH OP MAIN
(at 105°)

- S (2 sec) or no button action during 2 min to revert to Surface or Dive Main.
- S (< 2 sec) to activate Smartglo Backlight.
- M (< 2 sec) to access Compass Menu, surface only.

REFERENCE OP MAIN, information includes (Fig. 117) -

> Current Depth with FT (or M) icon, Surface Interval during first 10 min on surface, blank on surface > 10 min.
> Reference Mode icon (2 bars with arrow, Fig. 117a) with numeric Reference heading (course) set below it.
> Static Arrow icon (at 12 o'clock), diver direction of travel.
> Turn Arrow icon (left or right) flashing during any time the diver deviates => 10° off the heading set.
> Dynamic Arrow, tracking Reference direction set.
> Numeric heading (diver's current direction), 001 to 360°, with position graphic (N, E, SE, ESE, etc.).
> On time remaining, counting down, if 15 to 0 (sec).

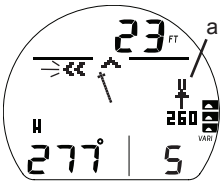


Fig. 117 - REF OP MAIN
(at 277°, turn left to 260°)

- S (2 sec) or no button action during 2 min - revert to Surface or Dive Main.
- S (< 2 sec) to activate Smartglo Backlight.
- M (< 2 sec) to access Compass Menu, surface only.
- A (< 2 sec) to access Reference Menu, surface or dive.

REFERENCE MENU, information includes (Fig. 118) -

> Current Depth with FT (or M) icon, blank on surface.
> Graphic MENU, with selections ->
> SET HEADING.
> REVERSE HEADING.
> On time remaining, counting down, if 15 to 0 (sec).

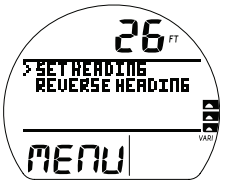


Fig. 118 - REF MENU
(during dive, surface similar)

- A (< 2 sec) to toggle selection.
- S (< 2 sec) to save the selection, and -

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> *If SET HEADING, display REF OP Main with the Heading flashing allowing it to be set.*

> *If REVERSE HEADING, select it as the OP Mode with new Heading (180° opposite of Reference Heading set).*

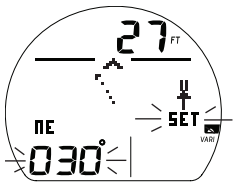

Fig. 119 - SET REF HEADING
(rotate to desired Heading)

Set Reference Heading, information includes (Fig. 119) -
> Current Depth with FT (or M) icon, blank on surface.
> Reference Mode icon (2 bars with arrow) with graphic SET (flashing) below it.
> Static Arrow icon (at 12 o'clock), diver direction of travel.
> Dynamic Arrow, tracking Reference direction set.
> Numeric heading (diver's direction), with position graphic.
> On time remaining, counting down, if 15 to 0 (sec).

- S (< 2 sec) to flash Heading value, with SET solid.
- Rotate (keeping level) in either direction to new Heading.
- S (< 2 sec) to lock in new Heading, replacing SET.

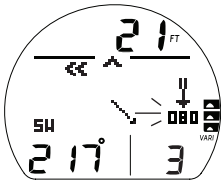

Fig. 120 - REVERSE REF HEADING
(from 260°, to 080°)

Reverse Ref Heading, information includes (Fig. 120) -
> Current Depth with FT (or M) icon, blank on surface.
> Reverse Mode icon (2 bars with arrow) with reverse Heading (180° opposite of Reference Heading set) below it (flashing).
> Static Arrow icon (at 12 o'clock), diver direction of travel.
> Dynamic Arrow, tracking Reference direction set.
> Numeric heading (diver's direction), with position graphic.
> On time remaining, counting down, if 15 to 0 (sec).

- S (< 2 sec) to reverse Heading.

The value below the Reverse Mode icon will stop flashing indicating the Heading has been reversed.

CALIBRATION (surface only)
Local magnetic fields can effect display of actual location when reading a digital compass.

It may be advantageous to Calibrate the Compass before its first use after purchase, before use in new global regions, or if inaccuracies are experienced.

Calibration will be required when the battery is changed.

Fig. 121A - ACCESS TO CAL
(turn unit upside down)

Upon selecting Calibration on the Compass Menu (by S < 2 sec), a screen appears displaying the graphics CAL with Face Down Until Beep (Fig. 121A)*.

**This screen will also be accessed after the Battery is changed and Data is either saved or cleared.*

Fig. 121B - AFTER BEEP
(turn unit right side up)

To initiate Calibration -
> turn the unit over (face down, Fig. 121A) until it beeps, then -
> turn the unit over (face up, Fig. 121B) until it beeps, after which a screen appears displaying the graphics CAL with Rotate To Calibrate 360° (Fig. 122).
> while keeping it in a flat level position, slowly and steadily rotate* it 360° while keeping it in a flat level position (keeping it level is critical for accuracy), progress will be indicated by a circle forming on the display (Fig. 123).

**Rotation should take about 15 seconds. If not fully rotated in 15 seconds, operation will revert to the Compass Menu.*

Fig. 122 - TO START CAL

Calibration complete -
> Once fully formed, the circle will be replaced with the graphics Ready Passed Calibration (Fig. 124) or Failed Calibrate Again, flashing for 3 seconds, then -

> If READY, operation reverts to the Compass OP Main.
> If FAILED, operation reverts to the CAL Face Down Until Beep screen for repeat of the procedure.
> If Calibration fails 3 times, operation reverts to the Surface Main screen.

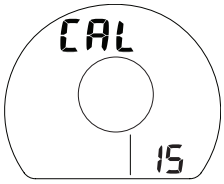

Fig. 123 - CAL PROGRESS
(circle forms while rotating)

Fig. 124 - CAL PASSED

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DECLINATION

Magnetic Declination is taken from numbers provided on maps or charts that apply to a specific location. The numbers represent the easterly or westerly angular difference (Declination) in degrees between magnetic North and true (geometric or polar) North. A Compass will point to magnetic North unless its reference is adjusted to true North prior to conducting activities.

Fig. 125 - SET DECLINATION MENU

Declination Menu, information includes (Fig. 125) -

> Graphics SEt and MENU, with selections -
> OFF.
> DECLIN EAST + .
> DECLIN WEST - .

- A (< 2 sec) to step forward (down) through Menu selections.
- M (< 2 sec) to step back (up) through Menu selections.
- S (< 2 sec) when the pointer icon (>) is next a selection to select it.

> *If OFF is selected, Declination is set for 0° and operation reverts to the Compass Menu.*
> *If DECLIN EAST (or WEST) is selected, that graphic will flash and the numeric value with ° icon will flash in place of the graphic MENU (Fig. 126).*

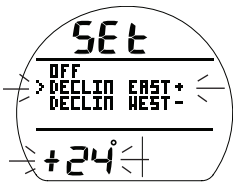

Fig. 126 - SET DECLIN

- A (< 2 sec) to increase Set Points one at a time from 0 to 45° in increments of 1°.
- A (hold) to increase Set Points at a rate of 4 per second.
- M (< 2 sec) to decrease Set Points one at a time.
- S (< 2 sec) to save the Set Point and revert to the Set Declination Menu.

ALARMS

When most Alarms strike, operation in Compass Mode will be terminated and the Dive Main will be displayed indicating the alarm condition. Compass Mode can then be reentered by pressing S (2 sec).

During several types of alarms, indication will be given while remaining in Compass Mode without interuption. They are -

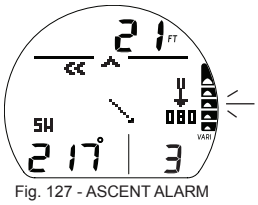

Fig. 127 - ASCENT ALARM

Ascent Alarm (Fig. 127) -

> VARI, all segments flashing until slowed.

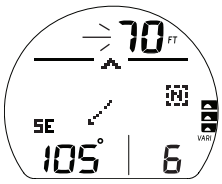

Fig. 128 - DEPTH ALARM

Depth Alarm (Fig. 128) -

> Depth digits flashing until < alarm depth set.

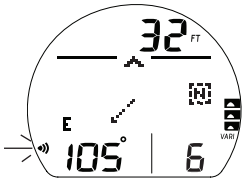

Fig. 129 - LOSS OF LINK

Loss of Link (Fig. 129) -

> Link icon on flashing until Link is regained.

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REFERENCE

CAUTION: When the procedure provided in this section is used to change the VT 4.0 Battery, you must be sure that the case o-ring is not pinched and that the VT 4.0 is water tight before conducting diving actvities. Pre dive pressure testing by an Authorized Oceanic facility is highly recommended.

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PC INTERFACE

The VT 4.0 is configured with a Data Port (Fig. 130a) that enables it to be connected to a PC through a USB port using a special Interface Cable supplied or available as an optional accessory.

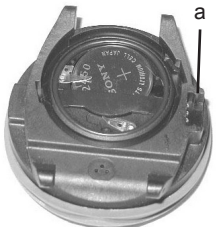

Fig. 130 - VT 4.0 DATA PORT

A USB Driver is provided on the OceanLog CD. This must be installed on the PC with the program.

The Settings Upload feature can be used to set/change all of the unit's settings except FO2 which must be entered using the unit's control buttons and menu system.

Information* available for retrieval (DownLoad) from the VT 4.0 to the PC OceanLog program includes items such as dive number, surface interval time, max depth, elapsed dive time, start date and time, lowest temperature underwater, sampling rate, dive profile, Set Points, start/end pressure, Air Time Remaining, O2 data, ascent rate, TLBG, and Switching events.

**FREE Dive information is only available using the PC interface system.*

The VT 4.0 checks for the presence of an interface device connection to the Data Port once every second while in Surface Mode. Checks are not made if the Wet Activation contacts are wet. Upon sensing an interface connection, the requesting device (PC) connects to the VT 4.0 and is prepared for Upload of settings or Download of data which is then initiated using the PC OceanLog program.

Prior to attempting to Download data from your VT 4.0 or Upload settings to it, review the Help section of the OceanLog program. Recommended is to print those sections of Help that you consider appropriate for your interface activities.

The VT 4.0 checks for a connection to the Data Port once every second while the Surface Main is displayed. Checks are not made if the Wet Activation contacts are wet.

When the PC Interface cable is plugged in, the graphic PC COMM is displayed (Fig. 131) with a 2 minute countdown timer that runs until the connection is confirmed, then the graphics PC COMM CONNECTED are displayed (Fig. 132) until completion of the upload or download operation.

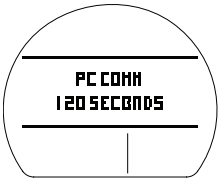

Fig. 131 - PCI CABLE PLUGGED IN

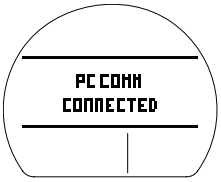

Fig. 132 - PC CONNECTION CONFIRMED

PC requirements:

- IBM®, or compatible, PC with USB Port
- Intel® Pentium 200 MHz or better microprocessor
- Microsoft® Windows® 98 Second Edition, ME, NT, 2000, XP, or Vista
- Super VGA card or compatible video graphics adaptor (256 color or greater) with a minimum 800 X 600 pixel screen area of display settings
- 16MB of available RAM
- 20MB of available hard drive storage
- Mouse
- CD Rom drive
- Printer

For software updates, refer to the Oceanic web site at ->> www.OceanicWorldwide.com

For support, call OceanLog Support toll free at ->> (866) 732-7877, 8 Am to 5 Pm USA Pacific time.

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CARE AND CLEANING

Protect your unit from shock, excessive temperatures, exposure to chemicals, and tampering. Protect the lens against scratches with a Instrument Lens Protector. Small scratches will naturally disappear underwater.

- Soak and rinse the VT 4.0 in fresh water at the end of each day of diving, and check to ensure that the areas around the low pressure (depth) sensor (Fig. 133a), PC interface data port (Fig. 133b), and buttons are free of debris or obstructions. Soak and rinse the regulator with the transmitter attached.
- To dissolve salt crystals, use lukewarm water or a slightly acidic bath (50% white vinegar/50% fresh water). After removal from the bath, place the VT 4.0 and the regulator assembly with transmitter under gently running water and towel dry before storing.
- Transport your VT 4.0 system cool, dry, and protected.

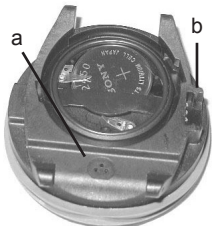

Fig. 133 - VT 4.0 CASE BACK

INSPECTIONS AND SERVICE

Your VT 4.0 should be inspected annually by an Authorized Oceanic Dealer who will perform a factory prescribed function check and inspection for damage or wear. To keep the 2 year limited warranty in effect, this inspection must be completed one year after purchase (+/- 30 days).

Oceanic recommends that you continue to have an inspection performed every year to ensure it is working properly.

The costs of annual inspections, or inspections relating to water tight integrity, are not covered under the terms of the 2 year limited warranty.

To Obtain Service:

Take your VT 4.0 to your local Authorized Oceanic Dealer.

If required to return your VT 4.0 to the Oceanic USA factory:

- Obtain an RA (Return Authorization) number by contacting Oceanic USA at 510/562-0500 or send an e-mail to service@oceanicusa.com.
- Record all dive data in the Log and/or download the data stored in memory. All data will be erased during factory service.
- Package it using a protective cushioning material.
- Include a legible note stating the specific reason for return, your name, address, daytime phone number, serial number(s), and a copy of your original sales receipt and Warranty Registration.
- Send freight prepaid and insured using a traceable method.
- Non-warranty service must be prepaid. COD is not accepted.
- Additional information is available on the Oceanic web site OceanicWorldwide.com or on the local Oceanic web site that serves your global region.

BATTERY REPLACEMENT

The procedures that follow must be closely adhered to to avoid entrance of water into the unit. Damage due to improper Battery replacement (or subsequent leakage of moisture into the unit) is not covered by the VT 4.0's 2 year warranty.

When replacing the Battery in the VT 4.0, it is recommended that you also consider replacing the Battery(s) in the Transmitter(s) to be used, and vice-versa.

The Battery Compartment should only be opened in a dry and clean environment with extreme care taken to prevent the entrance of moisture or dust.

As an additional precautionary measure to prevent formation of moisture in the Battery Compartment, it is recommended that the Battery be changed in an environment equivalent to the local outdoor temperature and humidity (e.g., do not change the Battery in an air conditioned environment then take it outside during a hot sunny day).

Inspect the Buttons, Lens, and Housing to ensure they are not cracked or damaged. If there is any sign of moisture inside the unit, DO NOT attempt to use it for diving until it receives proper service by the Oceanic factory or an Authorized Regional Facility.

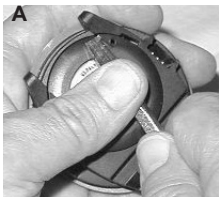

Fig. 134 - COVER REMOVAL

Data Retention

When the battery is removed, settings* and calculations for repetitive dives are retained in volatile memory until a new battery is installed. You will have the choice of saving or deleting the data (see page xx).

**Date will have to be set, Time may require adjustment for the time duration that the battery remains out of the unit.*

Battery Cover Removal

- Locate the Battery Compartment on the back of the module.
- While applying steady inward pressure on the clear Battery Cover, rotate the Cover Ring clockwise 10 degrees by pressing on the upper/right arm of the Ring with a small blade screwdriver (Fig. 134A).

If available, an adjustable face spanner tool or pointed pliers can be used by inserting the tips of the tool in the small holes in the Ring, then push and turn (Fig. 134B).

- Lift the Cover Ring up and away from the Housing.
- Remove the clear Battery Cover.

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Battery Removal

- Remove the Retaining Bar located across the lower portion of the Battery (Fig. 135a).
- Remove the Cover O-ring. DO NOT use tools
- Using care not to damage the Battery Contacts (Fig. 135 b/c), slide the Battery up and out of the right side of the Battery Compartment.

DO NOT allow a metal object to short circuit the top of the Battery which is positive (+) to the negative (-) contact of the Compartment.

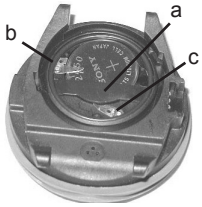

Fig. 135 - BATTERY COMPARTMENT

Inspection

- Closely check all of the sealing surfaces for any signs of damage that might impair proper sealing.
- Inspect the Buttons, Lens, and Housing to ensure they are not cracked or damaged.
- Remove the Battery Cover O-ring and inspect it for any signs of deterioration or deformity. DO NOT use tools to remove the O-ring.
- To ensure proper sealing, O-ring replacement is highly recommended each time the Battery is replaced.
- Closely examine the Battery Cover and Housing for any signs of damage that might prevent proper threading.
- Closely examine the inside of the Battery Compartment for any signs of corrosion indicating entrance of moisture into the unit.

⚠ **WARNING: If damage, moisture, or corrosion is found, return your unit to an Authorized Oceanic Dealer, and DO NOT attempt to use it until it has received factory prescribed service.**

VT 4.0 Battery Installation

- Slide a new 3 volt CR2450 Lithium Battery, negative (**-**) side down into the cavity of the battery compartment. Slide it in from the right side and ensure that it slides under the contact clip on the left rim of the cavity.
- Orient the Retaining Bar across the lower portion of the Battery (Fig. 136a) and carefully push it down into position.

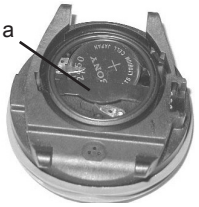

Fig. 136 - VT 4.0 BATTERY INSTALLED

- Replace the Cover O-ring with a new one which must be a genuine Oceanic part that can be purchased from an Authorized Oceanic Dealer.

Use of any other O-ring will void the warranty.

- Lightly lubricate the new Cover O-ring with silicone grease and place it on the inner rim of the Battery Cover (Fig. 137a), and ensure that it is evenly seated.
- Slide the Cover Ring, top portion first (small opening), onto your thumb.
- Carefully place the Cover (with O-ring) into position on the rim of the Battery Compartment, then press it completely and evenly down into place with your same thumb.
- Maintain the Cover securely in place and, using your other hand, slide the Cover Ring off your thumb and into position around the Battery Compartment. The tabs on the Ring fit down into the slots located at the 2 and 9 o'clock positions.
- Using your fingers, turn the Ring counter clockwise 5 degrees until the tabs engage, then tighten it 5 more degrees by turning it counter clockwise with the aide of a small blade screwdriver or spanner tool, pressing against the upper/left arm of the Ring (Fig. 138).

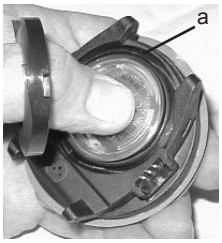

Fig. 137 - COVER & RING INSTALLATION

Testing

> Ensure that the LCD is clear and sharp in contrast. If any portions are missing or appear dim, or if a Low Battery condition is indicated, return the VT 4.0 with Transmitter to an Authorized Oceanic Dealer for evaluation before use.

> During 24 hours after completion of a dive, the graphic DATA with selections SAVE ? and CLEAR ? will be displayed (Fig. 139) giving you the option to retain or delete settings and Ni-O2 calculations for repetitive dives.

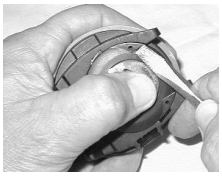
Fig. 138 - TIGHTENING COVER RING

- A (< 2 sec) to toggle between SAVE and CLEAR.
- S (< 2 sec) to save the selection.

> Graphics DATA SAVED (or CLEARED) with CAL COMPASS appear for 3 seconds (Fig. 140), then operation reverts to the Compass CAL screen.

> Calibrate the Compass. *Refer to page 47.*

> Verify all Set Points prior to diving.

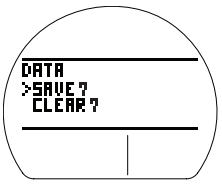

Fig. 139 - SELECT ITEM

- Pressurize the Regulator assembly (with Transmitter).
- Verify that the Link icon is displayed.
- Check the TMT Status screens. *Refer to page 14.*

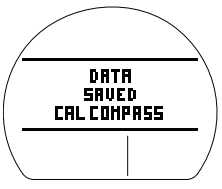

Fig. 140 - DATA HAS BEEN SAVED

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TRANSMITTER BATTERY REMOVAL

Locate the Battery Cover on the end of the housing:

- Apply a coin to the recessed slot of the Cover and turn it counter clockwise out of the housing (Fig. 141).
- Remove the Battery and discard it according to local regulations governing disposal of Lithium batteries.

Fig. 141 - COVER REMOVAL

TRANSMITTER BATTERY INSTALLATION

- Lightly lubricate the new Battery Cover O-ring with silicone grease and install it onto the Battery Cover. DO NOT roll the O-ring over the Threads, instead stretch it slightly to work it down over the slotted end of the Cover into the groove at the base of the threads (Fig. 142).
- The O-ring must be a genuine Oceanic part that can be purchased from an Authorized Oceanic Dealer.

Use of any other O-ring will void the warranty.

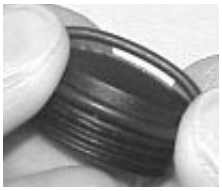

Fig. 142 - INSTALLING COVER O-RING

- Place a new 3 volt CR2 Lithium Battery (Duracell model DL-CR2 or equivalent) positive (+) side down into the Battery compartment with the negative end facing up/out (Fig. 143).
- Ensure that the Battery is properly oriented and the Cover O-ring is evenly seated around the Cover.
- Carefully place the Cover (with Spring) into the housing and turn clockwise slowly by hand to ensure proper threading.
- Apply a coin and tighten until secure. The outer surface of the Battery Cover should be flush with the outer surface of the housing (Fig. 144).

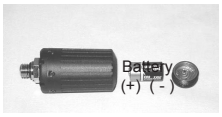

Fig. 143 - ORIENTATION

INSTALLING A TRANSMITTER ON A REGULATOR

- Remove the existing pressure gauge and high pressure hose, or the high pressure port plug from the port marked HP using the proper size hex key.
- Lightly lubricate the o-ring and threads of the Transmitter fitting with a halocarbon based lubricant such as Christo-Lube MCG111.
- Thread the Transmitter clockwise by hand into the regulator's HP port (Fig. 145) and tighten until secure with an appropriate sized open end wrench.
- Attach the regulator First Stage to a full scuba tank and pressurize by slowly opening the tank valve, listening for any indication of air leaking around the fitting.
- If air leakage is present, DO NOT use, take the complete regulator assembly to an Authorized Oceanic Dealer for inspection and service.

Fig. 144 - TRANSMITTER COVER INSTALLED

TRANSMITTER COMPATIBILITY WITH NITROX

When packaged and shipped from the factory, Oceanic Transmitters are rated for use with compressed Air and/or nitrogen-oxygen (Nitrox) breathing gas mixtures containing up to 99% O2 by volume and with 100% O2.

Fig. 145 - TRANSMITTER ON FIRST STAGE

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ALTITUDE SENSING AND ADJUSTMENT

Prior to the first dive of a series of repetitive dives, Altitude (i.e., ambient pressure) is measured upon activation then every 15 minutes until a dive is made.

> Measurements are only taken when the unit is dry.
> Two readings are taken, the second reading 5 seconds after the first. The readings must be within 1 foot (30 cm) of each other to record that ambient pressure as the current Altitude.
> No adjustments are made during any time that the Wet Contacts are bridged.

When diving in high altitude waters from 3,001 to 14,000 feet (916 to 4,270 meters), the VT 4.0 automatically adjusts to these conditions providing corrected Depth, and reduced No Deco and O2 Times at intervals of 1,000 feet (305 meters).

At an elevation of 3,001 feet (916 meters), Depth calibration automatically changes from feet of seawater to feet of fresh water. This is the first adjustment to the algorithm.

When the Conservative Factor feature is set On, NDLs are calculated based upon the next higher 3,000 foot (915 meter) Altitude. All adjustments for Altitudes greater than 11,000 feet (3,355 meters) are then made to allowable dive times for 14,000 feet (4,270 meters). At Sea Level, calculations are based upon an Altitude of 6,000 feet.

The VT 4.0 will not function above 14,000 feet (4,270 meters).

RESET DURING A DIVE

The intent of the feature is to assist the diver by providing indication of Depth during the ascent and encourage return of the affected unit to the factory for evaluation prior to further use.

If the VT 4.0 Resets (i.e.; is On, turns Off, then turns On again) for any reason during any dive, Nitrogen, O2, and ATR calculations are terminated (upon turning Off). Upon turning On, the graphic ERROR and the UP Arrow icons appear solid, and Current Depth is displayed (Fig. 146). No other information is displayed. The Backlight remains operational.

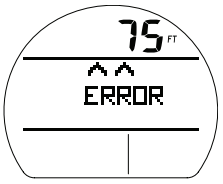

Fig. 146 - ERROR DURING DIVE

Upon surfacing, the graphic ERROR is displayed solid for 5 seconds (Fig. 147), then the unit will shut off with operation blocked permanently, even if the battery is replaced and attempts are made to reactivate the unit.

⚠ WARNING: In the unlikely event that this should ever happen, DO NOT continue diving with the unit, return the it to the factory as soon as possible.

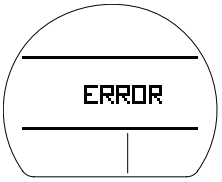

Fig. 147 - ERROR UPON SURFACING

⚠ WARNINGS

Decompression diving, or diving deeper than 130 FT (39 M), will greatly increase your risk of decompression sickness.

Decompression diving is inherently hazardous and greatly increases your risk of decompression sickness, even when performed according to the dive computer's calculations.

Using an VT 4.0 is no guarantee of avoiding decompression sickness.

The VT 4.0 enters Violation Mode when a situation exceeds its capacity to predict an ascent procedure. These dives represent gross excursions into decompression that are beyond the boundaries and spirit of the VT 4.0's design. If you are following these dive profiles, Oceanic advises that you should not use an VT 4.0.

If you exceed certain limits, the VT 4.0 will not be able to help you get safely back to the surface. These situations exceed tested limits and can result in loss of some functions for 24 hours after the dive in which a violation occurred.

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TECHNICAL DATA

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PZ+ ALGORITHM >> NDLS (minutes) at ALTITUDE (Imperial)

Altitude (feet)	0 to 3000	3001 to 4000	4001 to 5000	5001 to 6000	6001 to 7000	7001 to 8000	8001 to 9000	9001 to 10000	10001 to 11000	11001 to 12000	12001 to 13000	13001 to 14000
Depth (FT)												
30	197	150	141	134	128	122	117	112	107	99	94	89
40	109	81	75	71	68	65	62	60	57	55	53	51
50	65	53	51	49	47	44	42	39	37	35	34	33
60	48	37	35	33	32	30	28	26	24	23	22	21
70	35	26	24	23	21	20	19	18	17	16	16	14
80	26	19	18	17	16	15	14	13	12	11	11	10
90	19	15	14	13	12	11	10	10	9	9	8	8
100	16	11	10	10	9	9	8	8	7	7	7	7
110	12	9	8	8	8	7	7	7	6	6	6	5
120	10	8	7	7	7	6	6	6	5	5	5	5
130	8	7	6	6	6	5	5	5	5	5	4	4
140	7	6	5	5	5	5	5	4	4	4	4	4
150	6	5	5	5	5	4	4	4	4	4	4	3
160	6	5	5	4	4	4	4	4	4	3	3	3
170	5	4	4	4	4	4	3	3	3	3	3	3
180	5	4	4	4	3	3	3	3	3	3	3	3
190	4	4	4	3	3	3	3	3	3	3	3	3

PZ+ ALGORITHM >> NDLS (minutes) at ALTITUDE (Metric)

Altitude (meters)	0 to 915	916 to 1220	1221 to 1525	1526 to 1830	1831 to 2135	2136 to 2440	2441 to 2745	2746 to 3050	3051 to 3355	3356 to 3660	3661 to 3965	3966 to 4270
Depth (M)												
9	217	161	151	143	136	130	124	119	104	110	103	97
12	115	87	81	75	72	68	65	63	60	58	55	54
15	68	55	53	51	49	47	44	42	39	37	36	34
18	50	39	37	35	33	32	30	28	26	24	23	22
21	36	28	26	24	23	21	20	19	18	17	16	16
24	27	20	19	18	17	16	15	14	13	12	11	11
27	20	16	15	13	12	11	11	10	9	9	9	8
30	16	12	11	10	9	9	9	8	8	7	7	7
33	13	9	9	8	8	7	7	7	7	6	6	6
36	10	8	7	7	7	6	6	6	5	5	5	5
39	9	7	6	6	6	6	5	5	5	5	5	4
42	8	6	6	5	5	5	5	5	4	4	4	4
45	6	5	5	5	5	4	4	4	4	4	4	4
48	6	5	5	4	4	4	4	4	4	3	3	3
51	5	4	4	4	4	4	4	3	3	3	3	3
54	5	4	4	4	4	3	3	3	3	3	3	3
57	5	4	4	3	3	3	3	3	3	3	3	3

DSAT ALGORITHM >> NDLS (minutes) at ALTITUDE (Imperial)

Altitude (feet)	0 to 3000	3001 to 4000	4001 to 5000	5001 to 6000	6001 to 7000	7001 to 8000	8001 to 9000	9001 to 10000	10001 to 11000	11001 to 12000	12001 to 13000	13001 to 14000
Depth (FT)												
30	260	201	187	175	165	156	148	141	135	130	124	118
40	137	103	96	90	85	80	76	72	69	66	63	61
50	81	63	60	58	55	52	48	45	43	41	39	37
60	57	43	40	38	36	34	33	31	30	29	28	27
70	40	31	30	28	27	26	24	23	22	20	19	18
80	30	24	23	21	20	19	18	17	16	16	14	13
90	24	19	18	17	16	15	14	13	12	11	10	10
100	19	15	14	13	12	11	10	10	9	9	8	8
110	16	12	11	10	9	9	8	8	8	7	7	7
120	13	9	9	8	8	8	7	7	7	6	6	6
130	11	8	8	7	7	7	6	6	6	6	5	5
140	9	7	7	6	6	6	6	5	5	5	5	5
150	8	6	6	6	5	5	5	5	5	4	4	4
160	7	6	5	5	5	5	5	4	4	4	4	4
170	7	5	5	5	4	4	4	4	4	4	4	3
180	6	5	5	4	4	4	4	4	4	3	3	3
190	5	4	4	4	4	4	4	3	3	3	3	3

DSAT ALGORITHM >> NDLS (minutes) at ALTITUDE (Metric)

Altitude (meters)	0 to 915	916 to 1220	1221 to 1525	1526 to 1830	1831 to 2135	2136 to 2440	2441 to 2745	2746 to 3050	3051 to 3355	3356 to 3660	3661 to 3965	3966 to 4270
Depth (M)												
9	283	217	204	190	178	168	159	151	144	138	132	127
12	144	112	104	97	90	85	81	77	73	70	67	64
15	85	66	63	60	57	55	52	49	46	43	41	39
18	59	45	42	40	38	36	34	32	31	30	29	28
21	41	33	31	29	28	27	26	24	23	21	20	19
24	32	26	24	22	21	20	19	18	17	16	15	14
27	25	19	18	17	16	16	14	13	12	12	11	10
30	20	16	15	13	12	12	11	10	10	9	9	8
33	17	12	11	11	10	9	9	8	8	8	7	7
36	14	10	9	9	8	8	7	7	7	6	6	6
39	11	8	8	7	7	7	6	6	6	6	5	5
42	9	7	7	7	6	6	6	5	5	5	5	5
45	8	6	6	6	6	5	5	5	5	5	4	4
48	7	6	6	5	5	5	5	4	4	4	4	4
51	6	5	5	5	5	4	4	4	4	4	4	4
54	6	5	5	4	4	4	4	4	4	3	3	3
57	5	4	4	4	4	4	4	3	3	3	3	3

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SPECIFICATIONS

CAN BE USED AS
- Dive Computer (Air or Nitrox) with up to 4 Gases up to 100% O2 and 4 Transmitters.
- Digital Depth Gauge/Timer with up to 4 Transmitters.
- Free Dive (breath hold) activity with Depth Gauge/Countdown Timer.
- Compass.

DIVE COMPUTER PERFORMANCE
- Buhlmann ZHL-16c based Pelagic Z+, or DSAT based, algorithm.
- No Deco limits closely follow PADI RDP.
- Decompression in agreement with Buhlmann ZHL-16c and French MN90.
- No Deco Deep Stops >> Morroni, Bennett.
- Deco Deep Stops (not recommended) >> Blatteau, Gerth, Gutvik.
- Altitude >> Buhlmann, IANTD, RDP (Cross).
- Altitude corrections and O2 limits based on NOAA tables.

TRANSMITTERS (TMTs)
- Battery and Pressure check
  > every 2 seconds when awake
- Startup
  > Pressure => 120 PSI (8 BAR)
  > Battery => 2.75 volts
- Shutdown
  > Pressure < 50 PSI (3.5 BAR)

TMT Compatibility with Nitrox
- When packaged and shipped from the factory, Oceanic Transmitters are rated for use with compressed Air and Nitrox mixtures containing up to 99% O2 by volume and with 100% O2.

OPERATIONAL PERFORMANCE

Function:	Accuracy:
• Depth	±1% of full scale
• Timers	1 second per day

Dive Mode Activation:
- Must first be activated by button press, if Wet Activation is set OFF.
- Automatic by immersion in water, if Wet Activation is set ON.
- Cannot be manually activated deeper than 4 FT (1.2 M), if Wet Activation is set OFF.
- Cannot operate as a DC at elevations higher than 14,000 feet (4,270 meters).

Unit Shutoff:
- 2 hours after activation, if no dive conducted.
- 24 hours after conducting a dive, if no further dives conducted.

Dive Counter:
- NORM/GAUG displays Dives #1 to 24, FREE displays #1 to 99 (0 if no dive made yet).
- Resets to Dive #1, upon diving (after 24 hours with no dives).

Dive Log Mode:
- Stores 24 most recent NORM/GAUG dives in memory for viewing.
- After 24 dives, adds 25th dive in memory and deletes the older dive.

Altitude:
- Operational from sea level to 14,000 feet (4,270 meters) elevation.
- Measures ambient pressure upon activation and every 15 minutes while in Surface modes.
- Does not measure ambient pressure when Wet.
- Compensates for Altitudes above sea level beginning at 3,001 feet (916 meters) elevation and every 1,000 feet (305 meters) higher.

Power:

• Battery	(1) 3 vdc, CR2450, Lithium battery (Panasonic or equivalent)
• Transmitter Battery	(1) 3 vdc, CR2, .75 Ahr, Lithium battery (Duracell model DL-CR2 or equivalent)
• Shelf life	Up to 5 years
• Replacement	User replaceable (annual recommended)
• Use Life	1 year or 300 dive hours if (2) 1 hour dives per dive day
• Use Life (Transmitter)	300 dive hours if (2) 1 hour dives per dive day

Battery Indicator:
- Warning >> icon on solid when <= 2.75 volts, Battery change recommended.
- Alarm >> icon on flashing when <= 2.50 volts, change the Battery, will not function.

Operating Temperature:
- Out of the water >> between 20 °F and 140 °F (-6 and 60 °C).
- In the water >> between 28 °F and 95 °F (-2 and 35 °C).

BAR GRAPHS:

TLBG	segments
• No Deco Normal zone	1 to 3
• No Deco Caution zone	4
• Decompression zone	5 (all)

VARI	60 FT (18 M) & Shallower			Deeper than 60 FT (18 M)		
	segments	FPM	MPM	segments	FPM	MPM
	0	0 - 10	0 - 3	0	0 - 20	0 - 6
• Normal zone	1	11 - 15	3.5 - 4.5	1	21 - 30	6.5 - 9
Normal zone	2	16 - 20	5 - 6	2	31 - 40	9.5 - 12
Normal zone	3	21 - 25	6.5 - 7.5	3	41 - 50	12.5 - 15
• Caution zone	4	26 - 30	8 - 9	4	51 - 60	15.5 - 18
• Too Fast zone (flashing)	5 (all)	> 30	> 9	5 (all)	> 60	> 18

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SPECIFICATIONS (CONTINUED)

NUMERIC DISPLAYS:	Range:	Resolution:
• Time of Day	0:00 to 23:59 hr:min	1 minute
• PCI Countdown Timer	1:59 to 0:00 min:sec	1 second
• Altitude Level	Sea, EL-2 to EL-7	1 (level)
• Time to Fly	23:50 to 0:00 hr:min	1 minute
• Time to Desaturate	23:50 to 0:00 hr:min	1 minute
• Temperature	0 to 99°F (-18 to 60°C)	1°F (C)
• Depth (display)	0 to 399 FT (120 M)	1 FT (0.1/1 M)
• Max Op Depth (NORM/FREE)	330 FT (100 M)	
• Max Op Depth (GAUG)	399 FT (120 M)	
• Tank Pressure	0 to 5000 PSI (345 BAR)	5 PSI (1 BAR)
• NORM/GAUG SI Time	0:00 to 23:59 hr:min	1 minute
• NORM/GAUG Dive Number	0 to 24	1 (dive)
• NORM/GAUG EDT	0 to 599 min	1 minute
• NORM DTR	0 to 199 min	1 minute
• NORM/GAUG ATR	0 to 199 min	1 minute
• FO2 (1, 2, 3, 4) Set Points	Air, 21 to 100 %	1 %
• PO2 Value	0.00 to 5.00 ATA	.01 ATA
• O2 Saturation	0 to 100 %	1 %
• No Deco Deep Stop Time	2:00 to 0:00 min:sec	1 second
• No Deco Safety Stop Time	5:00 to 0:00 min:sec	1 second
• Safety Stop Run Timer	0:00 to 9:59 min:sec	1 second
• GAUG Dive Run Timer	0 to 999 min	1 minute
• Deco Stop Time	1 to 599 min	1 minute
• Total Ascent Time	1 to 599 min	1 minute
• Violation Countdown Timer	23:50 to 0:00 hr:min	1 minute
• FREE SI Time (< 1 hr)	0:00 to 59:59 min:sec	1 second
• FREE SI Time (=> 1 hr)	1:00 to 23:59 hr:min	1 minute
• FREE Dive Number	0 to 99	1
• FREE Countdown Timer	59:59 to 0:00 min:sec	1 second
• FREE EDT (< 1 min)	0:00 to 9:59 sec	1 second
• FREE EDT (=> 1 min)	10 to 599 min	1 minute
• Compass Heading	001 to 360°	001°
• Compass Op Time Remaining	15 to 1 sec	1 sec

WARNING: If your VT 4.0 stops working for any reason while operating as a Dive Computer, it is important that you have anticipated this possibility and are prepared for it. This is an important reason for not pushing the no decompression and oxygen exposure limits, and a critical reason to avoid entering decompression.

If you dive in situations where your trip would be ruined or your safety would be jeopardized by losing the use of your VT 4.0, a backup instrument system is highly recommended.

FCC ID: MH8A

FCC COMPLIANCE:
This equipment complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: 1.) this equipment may not cause harmful interference, and 2.) this equipment must accept any interference received, including interference that may cause undesired operation.

FCC INTERFERENCE STATEMENT:
This equipment has been tested and found to comply with the limits for an Intentional Radiator, a Class B Digital Device, pursuant to Part 15 of FCC Rules, Title 47 of the Code of Federal Regulations. These rules are designed to provide reasonable protection against harmful interference in a commercial or residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

There is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician.

Warning: Changes or modifications to this unit not expressly approved by Oceanic/2002 Design could void the user's authority to operate the equipment.

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INSPECTION / SERVICE RECORD

VT 4.0 Serial Number: _____

VT 4.0 Firmware Rev: _____

Transmitter1 Serial Number: _____

Transmitter 2 Serial Number: _____

Transmitter 3 Serial Number: _____

Transmitter 4 Serial Number: _____

Date of Purchase: _____

Purchased from: _____

Below to be filled in by an Authorized Oceanic Dealer:

Date	Service Performed	Dealer/Technician

OCEANIC WORLD WIDE

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VT 4.0

DIVE COMPUTER

OPERATING MANUAL

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